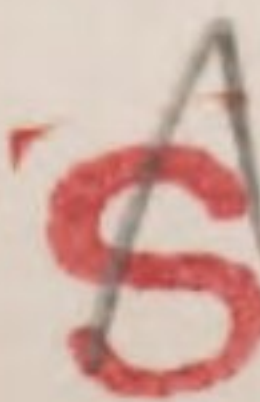


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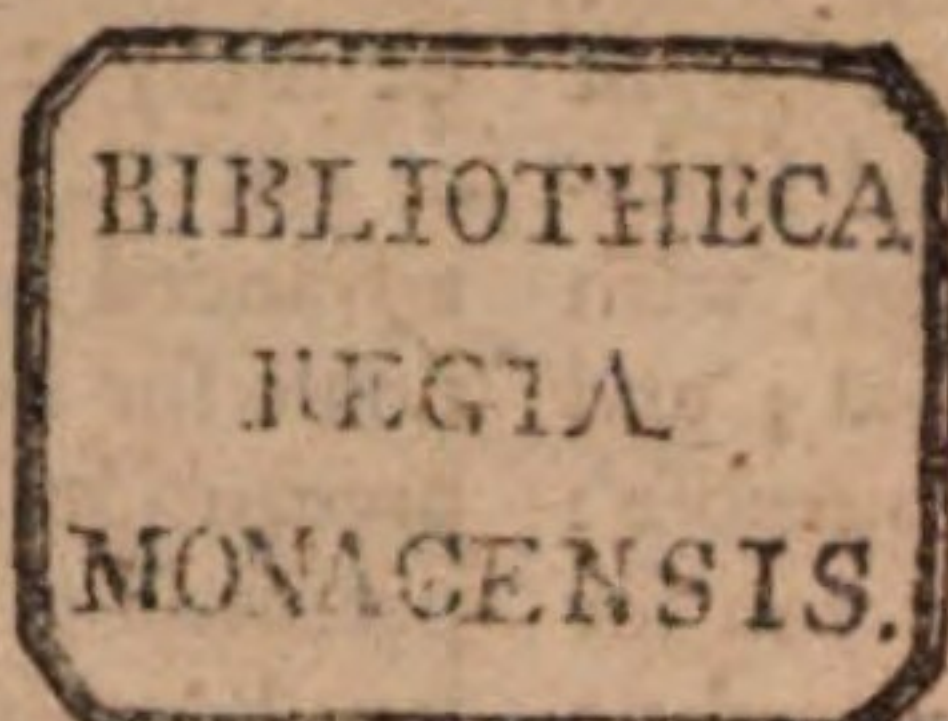
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ENCYCLOPÆDIA BRITANNICA.

[History of SCOTLAND continued from the preceding Volume.]

S C O

Scotland.

JAMES could never forgive Henry for the loss of his brave officer. He sent to demand satisfaction; but all the answer he received was, that Barton and his crews were lawless pirates, and that what had been done against them ought never to have been resented amongst sovereign princes. James asserted, that Barton was no pirate, because he bore his commission; and that he ought to have been convicted of piratical acts before he was treated as being guilty of them. Henry intimated to James, that he was willing to accommodate the affair by way of negotiation; but James thought himself affronted by the proposal.

360
James re-
solves to in-
vade Eng-
land.

Various negotiations took place concerning this and other affairs till the year 1513; when James, though he had for some time before been fully resolved upon a war with England, thought it highly necessary that it should have the sanction of his parliament, which he assembled for that purpose. The young nobility were not only inspired with the sentiments of James, but had been won over by the French; and the majority of them, as well as of the clergy (which was somewhat extraordinary, as James was, in effect, to fight against the pope and his allies), were keen for a war with England. The old counsellors, on the other hand, who saw the flourishing state of Scotland, arising from a long peace and their commerce, which was protected by a fleet, dreaded the ruinous consequences of the war. The queen naturally headed this party; and she was joined by the earl of Angus and the wisest part of the nobility. Their arguments made no impression upon James, who had received a present from Louis of four ships laden with wine and flour, and two ships of war completely equipped, one of them carrying 34 pieces of brass ordnance. He promised to the French queen, upon his honour, that he would take the field against the English; and she had sent him a fresh letter, gently reproaching him for want of gallantry, and for not being so good as his word. In short, the reasonings of the wisest and best part of the nobility were over-ruled, and the expedition against England was resolved on.

361
The Scots
defeated.

The earl of Hume, who was chamberlain of Scotland, was, at this juncture, at the head of 7000 or 8000 men, with whom he committed prodigious de-

Vol. XVII. Part I.

S C O

vastations on the English borders. Henry's queen, Catharine of Spain, whom he had left regent of his dominions, issued a commission of array, directed to Sir Thomas Lovel, knight of the garter, for assembling the militia of the counties of Nottingham, Derby, Warwick, Leicester, Stafford, Rutland, Northampton, and Lincoln. The management of the war, however, was chiefly committed to the earl of Surry, who assembled the militia of Chester, Lancaster, Northumberland, Westmoreland, Cumberland, and the bishopric of Durham. The earl of Hume had by this time laid great part of Northumberland waste; and his men were returning home laden with booty. The earl of Surry, resolving to intercept them, ordered Sir William Bulmer to form an ambush with 1000 archers, at a place called *Broomhouse*, which was extremely convenient for that purpose, as the Scots were obliged to pass that way. As the latter expected nothing of that kind, Bulmer executed his orders with great success. The archers assaulted the Scots all at once, and made so good use of their arrows, that their main body was put to flight, 500 were killed, and 400 taken, with the Lord Hume's standard, which he left on the field of battle; the greatest part of the plunder being recovered at the same time. The commonalty of Scotland termed this expedition of the Lord Hume's the *Ill road*.

Scotland.

James was more exasperated than ever by this defeat, and continued his preparations for invading England with additional vigour. His queen did all that became a wise and prudent wife to divert him from his fatal purpose. She endeavoured to work upon his superstition, by recounting to him her ominous dreams and boding apprehensions. James treating these as mere illusions and fictions of the brain, she had recourse to other arts. While James was waiting at Linlithgow for the arrival of his army from the north and the Highlands, he assisted one afternoon at the vespers in the church of St Michael. Being placed in one of the canon's seats, a venerable, comely man of about 52 years of age, entered, dressed in a long garment of an azure colour, and girded round with a towel or roll of linen, his forehead bald, and his yellow locks hanging down his shoulders; in short, he was dressed and

362
The queen
endeavours
to dissuade
James from
his design.

363
A phan-
tom appears
to him.

A

formed

6m52

Scotland. formed to appear like St Andrew, the apostle of Scotland, as he is represented in painting and sculpture. The church being crowded, this personage, with some difficulty, made his way to the king's seat; and leaning over it, he spoke to the following purpose: "Sir (said he), I am sent hither to intreat you for this time to delay your expedition, and to proceed no farther in your intended journey: for if you do, you shall not prosper in your enterprise, nor any of your followers. I am further charged to warn you, if ye be so refractory as to go forward, not to use the acquaintance, company, or counsel of women, as ye tender your honour, life, and estate." After delivering those words, he retired through the crowd, and was no more seen, though, when the service was ended, James earnestly inquired after him.

That this scene was acted, seems to be past dispute; for Sir David Lindsay, who was then a young man, and present in the church, reported it both to Buchanan and Lindsay the historian. It is, however, equally certain, that the whole was a contrivance of the queen, to whose other afflictions the stings of jealousy were now added. In one of the Scotch inroads into England, one Heron, the proprietor of the castle of Ford, had been taken prisoner, and sent to Scotland; where he was detained on a charge of murder, of which he seems to have been innocent. The English historians mention this as having passed after James entered England: but from the latter part of the supposed phantom's speech, it is probable that it happened before; and that Heron's wife and beautiful daughter had been for some time soliciting James for his deliverance. Be that as it may, it is too probable that James was smitten with the charms of the daughter; and that her mother, who was a most artful woman, knew how to avail herself of the conquest. Pretending that she had interest enough to procure the release of the lord Johnston and Alexander Home, who were prisoners in England, she was permitted by James to keep a constant correspondence with the earl of Surry, to whom she is said to have betrayed all James's secrets and measures. The rendezvous of James's army was at the Burrow-moor, to which James repaired; and having given orders for the march of his artillery, he lodged at the abbey of Holyroodhouse. While he was there, another attempt was made to divert him from his purpose of invading England: but James, deaf to all the solicitations and inventions of his queen, mustered his army; and on the 22d of August he passed the Tweed, encamping that night near the banks of the Twissel. On his arrival at Twisselhaugh on the 14th, he called an assembly of his lords together, and made a declaration, that the heirs of all such as should die in the army, or be killed by the enemy during his stay in England, should have their wards, relief, and marriages of the king; who, upon that account, dispensed with their age. This is said to have been the crisis of that prince's fate. Abandoned to his passion for his English mistress, she prevailed with him, at her mother's instigation, to trifle away his time for some days; during which interval, the junction of the English army was formed. The earl of Surry, the English general, was then at Pomfret: but ordered the landholders of the neighbouring counties to certify to him in writing what number of men each could furnish, charging them to

be ready at an hour's warning; and he laid his plan so, as not to bring his army into the field till James had advanced so far into England as to render it very difficult for him to retire without a general battle. This precaution assisted the lady Ford (as she is called) in persuading James that there was no danger in the delay, because the English had not the face of an army in the field.

In the mean time, the earl of Surry ordered the governors of Berwick and Norham, the two strongest places on the frontiers of England, to prepare for a vigorous resistance in case they were attacked; and directed them to certify how long they could hold out, in hopes, that if they made a resolute defence, James would march on, and leave them in his rear. The governor of Norham's answer was, that his castle was so well provided, as to leave him no doubt, in case of a siege, to be able to defend it till king Henry should return from abroad, and relieve it in person. James, however, besieged it on the 25th of August, and battered it so furiously, that he took it by capitulation the sixth day after. James then proceeded to the castle of Etal belonging to the family of Manners (now duke of Rutland); which he took and demolished likewise, as he also did Wark, and arrived before the castle of Ford. The Scotch army is generally allowed to have consisted of at least 50,000 men when it passed the Tweed. At this time it was encamped on the heights of Cheviot, in the heart of a country naturally barren, and now desolate through the precautions taken by the English general. Being obliged to extend their quarters for the benefit of subsistence, the mercenary part of them had acquired a considerable plunder, with which, as usual, they retired to their own country, as many more did for want of subsistence. The earl of Surry knew their situation, and ordered the rendezvous of his army, first at Newcastle, and then near Norham, having certain intelligence of the vast desertions daily happening in the Scotch army, which had reduced it greatly. The wetness of the season rendered his march, especially that of the artillery, extremely difficult; but being joined by several persons of distinction, he marched on the 3d of September to Alnwick, where he was reinforced by 5000 hardy veteran troops, sent from the English army on the continent, under the command of his son the lord-admiral of England; so that the English authors admit his army to have consisted of 26,000 men, all completely armed and provided for the field. James having, in the manifesto which he dispersed on his entering England, given the death of Barton as one of the causes of his invasion, the lord-admiral had prevailed with Henry to send him upon this service; and he informed James by a letter, that he intended to justify the death of that pirate in the front of the English army.

By this time the army of James was, by desertion and other causes, reduced to less than half its numbers; but the chief misfortune attending it was his own conduct. His indolence and inactivity, joined to the scandalous examples of his amours, at such a season, had disgusted several of his greatest men and best friends; and some of them more than suspected a correspondence between the English lady and the earl of Surry. James was deaf to all their remonstrances; and the earl of Angus declared, that he was resolved to return home, as he foresaw that the ruin of the army was inevitable through

364
James de-
luded by
his mistress.

365
The Scots
take the
castles of
Norham,
Etal, and
Wark.

366
James dis-
cusses feve-
ral of his
nobility.

Scotland. through the obstinacy of James. He accordingly withdrew to Scotland, but left behind him his two sons. The lord Hume and the earl of Huntley were likewise discontented. The former had brought his men into the field; but, according to some Scotch historians, with a design rather to betray than to serve James: but Huntley, though he disliked his master's conduct, remained firmly attached to his person.

367
Encamps
in an ad-
vantageous
situation.

The defection or backwardness of those great men seemed to make no impression upon James. He had chosen a strong camp in the neighbourhood of Ford, on the side of a mountain called Floddon-hill; and he was separated from the English army by the river Till. This advantageous situation put the earl of Surry under great difficulties; for it rendered the Scotch army inaccessible, as it was fortified by artillery, and was now well supplied with provisions by the change of its situation. The earl drew up a manifesto, with which he charged Rouge Croix herald, who was attended by a trumpet. It contained some proposals for an exchange of prisoners, which seems to have been calculated to give the lady Ford the more credit with James; but concluded with reproaches for his perfidious invasion of England, and a defiance to James to fight him in a general battle. The herald was farther charged with a verbal commission to acquaint James, that the earl of Surry had issued orders that no quarter should be given to any of the Scotch army but the king himself.

A council of war was called on this occasion; in which the earl of Huntley and others made strong remonstrances against a general engagement. They shewed how fatal it must be to Scotland, should it prove unsuccessful; and that the wisest course James could follow was to return home, where, if he was pursued by the enemy, he could fight to great advantage. The earl of Huntley, however, added, that his opinion should be determined by that of the king and council; and that he was equally ready to share in his majesty's danger as his glory.

368
Resolves
to fight,
contrary to
the opi-
nion of all
his officers.

Huntley and the other noblemen were opposed by the French ambassador, who represented a retreat as disgraceful to the nobility of Scotland and the arms of James; and used many romantic arguments of the same kind, which but too well suited with the king's disposition. According to Drummond, the council were of opinion, that the king should immediately besiege Berwick; but be that as it will, the majority of them were certainly of opinion, that it was beneath the dignity of James to fight the earl of Surry at that nobleman's requisition, and that James could lose no honour by returning home. Patrick lord Lindsay of Byres, mentioned on a former occasion, and who was president of the council, expressed himself so strongly on that head, that James, in a passion, is said by the historian Lindsay to have sworn, that if ever he lived to return to Scotland, he would hang that nobleman at his own gate. He ordered Rouge Croix to be called in; and after treating him with great politeness, he sent a message to the earl of Surry by one of his own heralds (Islay), importing, that he would give the English battle on the Friday following; and that had he received such a message from the earl even in his own castle of Edinburgh, he would have left that, and all other business, to have fought him. With this message,

a small manifesto, in vindication of James's conduct, was sent by the same herald. Scotland.

The earl of Surry, who was then so infirm that he was carried about in a sedan or chariot, had foreseen that James would return an answer by one of his own heralds; but, unwilling that he should obtain any knowledge of the situation of the English camp, he ordered proper persons to receive him at two miles distance, where soon after he attended himself in person. Islay executed his commission without paying much respect to the person of the English general; who dismissed him, after bestowing great compliments upon the honour and courage of James. The earl then ordered his army to march in the line of battle towards Wollerhaugh. There he was joined by Rouge Croix, herald, who gave him an account of the strong situation of the Scottish camp; but the advanced posts of the English army were then within three miles of their enemies, and the earl of Surry found his difficulties daily increasing. The roads were broken up, the swelling of the rivers cut him off from the necessary communications for supplying his army, and nothing but a battle could save him either from being disbanded or destroyed.

James seems to have so far regarded the advice of his wisest counsellors, as not to abandon his strong situation. They endeavoured to persuade him, that it was a sufficient guard to his honour, if he did not decline the battle on the day appointed; and that his engagement did not bind him to fight upon disadvantageous ground. The Scots, at the same time, knew of their enemy's distresses; and, as Drummond elegantly expresses it, they remonstrated to their king, that he lacked nothing but patience to be victorious. The Scots thus lying on the defensive, the earl of Surry again sent Rouge Croix to inform James that he was ready to give him battle. James was sensibly nettled at this tacit imputation upon his honour, and perhaps was inwardly vexed for having followed the wise advice of his noblemen. It is certain, from the best authorities, that he neglected the necessary precautions for guarding the passages of the Till, which the English crossed, partly at a place where it was fordable, and partly at a bridge. We are told, not without a great appearance of probability, that while the English were passing the bridge, Borthwick, master of the Scotch artillery, fell upon his knees, and begged permission from James to point his cannon against the bridge; but that James answered him in a passion, that it must be at the peril of his (Borthwick's) head, and that he was resolved to see all his enemies that day on the plain before him in a body. The earl of Surry, after passing the Till, took possession of Braxton, which lay to the right of the Scotch camp; and by that situation he cut off the communication of his enemies with the Tweed, and commanded the Till below Eton-castle. The Scotch generals saw themselves now in danger of being reduced to the same straits in which their enemies had been involved two days before, and their country open to an invasion of the English army. James had secret intelligence that this was far from being the intention of the English general; and imagining that the latter's intention was to take possession of a strong camp upon a hill between him and the Tweed, which would give the English a farther command of the country, he resolved to be be-

369
His im-
ru-
dent con-
duct.

Scotland. fore-hand with the earl, and gave orders for making large fires of green wood, that the smoke might cover his march along the height, to take advantage of that eminence. But while this stratagem concealed his march from the English, their movements were concealed from him: for when he came to the brow of the height over which he had marched, he found the enemy drawn up in order of battle on the plain, but so close to the height where he was, that his artillery, on which his great dependence was, must overshoot them.

370 Account of the battle of Flodden. A battle was now not only unavoidable, but the only means of saving the Scotch army, which was probably far from being a disagreeable circumstance to James. His person was so dear to his troops, that many of them dressed themselves as nearly as they could in the same coats of armour and with the same distinctions that James wore that day. His generals had earnestly desired him to retire to a place of safety, where his person would be secure in all events: but he obstinately refused to follow their advice; and on the ninth of September, early in the morning, dispositions were ordered for the line of battle. The command of the van was allotted to the earl of Huntley; the earls of Lenox and Argyle commanded the Highlanders under James, who, some say, served only as a volunteer; and the earls of Crawford and Montrose led the body of reserve. The earl of Surry gave the command of his van to his son, the lord-admiral; his right wing was commanded by his other son, Sir Edward Howard; and his left by Sir Marmaduke Constable. The rear was commanded by the earl himself, lord Dacres, and Sir Edward Stanley. Under those leaders served the flower of all the nobility and gentry then in England. Other writers give different accounts of the disposition of the English army, but they may be reconciled by the different forms into which the battle was thrown before it was decided. The lord Hume is mentioned as serving under the earls of Crawford and Montrose, and Hepburn earl of Bothwell was in the rear.

The first motion of the English army was by the lord-admiral, who suddenly wheeled to the right, and seized a pass at Milford, where he planted his artillery so as to command the most sloping part of the ascent where the Scots were drawn up; and it did great execution. The Scots had not foreseen this manœuvre; and it put them into such disorder, that the earl of Huntley found it necessary to attack the lord-admiral; which he did with so much fury, that he drove him from his post; and the consequence must have been fatal to the English, had not his precipitate retreat been covered by some squadrons of horse under the lord Dacres, which gave the lord-admiral an opportunity of rallying and new-forming his men. The earl of Surry now found it necessary to advance to the front, so that the English army formed one continued line, which galled the Scots with perpetual discharges of their artillery and bows. The Highlanders, as usual, impatient to come to a close fight, and to share in the honour of the day, which they now thought their own, rushed down the declivity with their broad-swords, but without order or discipline, and before the rest of the army, particularly the division under lord Hume, advanced to support them. Their impetuosity, however, made a considerable impression upon the main battle of the English; and the king bringing up the earl of

Bothwell's reserve, the battle became general and doubtful: but by this time the lord-admiral, having again formed his men, came to the assistance of his father, and charged the division under the earls of Crawford and Montrose, who were marching up to support the Highlanders, among whom the king and his attendants were now fighting on foot: while Stanley, making a circuit round the hill, attacked the Highlanders in the rear. Crawford and Montrose, not being seconded, according to the Scotch historians, by the Humes, were routed; and thus all that part of the Scotch army which was engaged under their king, was completely surrounded by the division of the English under Surry, Stanley, and the lord-admiral. In this terrible situation, James acted with a coolness not common to his temper. He drew up his men in a circular form, and their valour more than once opened the ranks of the English, or obliged them to stand aloof, and again have recourse to their bows and artillery. The chief of the Scotch nobility made fresh attempts to prevail with James to make his escape while it was practicable; but he obstinately continued the fight; and thereby became accessory to his own ruin, and that of his troops, whom the English would gladly have suffered to retreat. He saw the earls of Montrose, Crawford, Argyle, and Lenox, fall by his side, with the bravest of his men lying dead on the spot; and darkness now coming on, he himself was killed by an unknown hand. The English were ignorant of the victory they had gained; and had actually retreated from the field of battle, with a design of renewing it next morning.

This disaster was evidently owing to the romantic disposition of the king himself, and to the want of discipline among many of his soldiers; though some writers have ascribed it to the treachery of lord Hume. Many of James's domestics knew and mourned over his body; and it appeared that he had received two mortal wounds, one through the trunk with an arrow, and the other on the head with a ball. His coat of armour was presented to queen Catharine, who informed her husband, then in France, of the victory over the Scots. The loss on both sides, in this engagement, is far from being ascertained; though Polydore Virgil, who lived at the time, mentions the loss of the English at 5000, and that of the Scots at 10,000.

372 After the death of king James IV. the administration devolved on the queen-dowager; but she being big with a posthumous child, and unable to bear the weight of public business, accepted of Beaton archbishop of Glasgow and chancellor of Scotland, with the earls of Huntley, Angus, and Arran, to assist her in the affairs of government. 373 Soon after her husband's death she wrote an affecting letter to her brother the king of England, informing him of her pregnancy, setting forth the deplorable state of the kingdom, with her own condition, and imploring his friendship and protection for herself and her infant son. This letter seems never to have been communicated by Henry to his council; but he answered it, and informed his sister, that if the Scots would have peace, they should have peace, and war if they chose it. "He added (according to Drummond), that her husband had fallen by his own indiscreet rashness, and foolish kindness to France; that he regretted his death as his ally, and should be willing to prohibit all hostility against the country of Scotland during

Scotland.

371 The Scots defeated, and their king killed.

372 The queen-dowager assumes the government.

373 Writes to the king of England.

Scotland. during the minority of her son. For a remedy of present evils, one year's truce and a day longer was yielded unto; in which time he had leisure to prosecute his designs against France, without fear of being disturbed or diverted by the incursions and inroads of the Scots upon his borders."

374
The Scottish affairs
in great
confusion.

Thus far Drummond: but though Henry might grant this time to his sister's intreaty, yet it certainly did not become a national measure; for it appears by a letter dated two years after, from the Scots council to the king of France, published by Rymer, that the Scots never had desired a truce. So far from that, the French influence, joined to a desire of revenge, remained so strong in the kingdom, that after the meeting of the parliament, some of the members were so violent as to propose a renewal of the war. This motion was indeed over-ruled by the more moderate part of the assembly: but they could not be brought to make any advances towards Henry for a peace; and every day was now big with public calamity, which seems to have gathered strength while the queen was in child-bed. The archbishopric of St Andrew's being vacant, it was offered by universal consent to Elphinston bishop of Aberdeen; but being now old and infirm, he declined it. Three competitors for that high dignity then appeared. The first was Gawin Douglas, who was then abbot of Aberbrothwic, to which he was presented by the queen upon her recovery (having been brought to bed of a son) the very day before her marriage with his nephew the earl of Angus: and upon the death of bishop Elphinston in November following, she presented him likewise to the archbishopric of St Andrew's. The second competitor was John Hepburn, prior of St Andrew's; a bold, avaricious, restless, but shrewd and sensible priest. By his office he had received the rents of the see during its vacancy; and having prevailed with the canons, on pretence of ancient privileges, to elect him archbishop, without regard to the nomination either of the queen or pope, he drove Douglas's servants from the castle of St Andrew's, of which they had taken possession. The third and most powerful competitor was Forman bishop of Moray in Scotland, and archbishop of Bourges in France, a dignity to which he had been raised for his public services. He had in his interest not only the duke of Albany (son to the traitor duke) first prince of the blood, but also the court of Rome itself; and having received the pope's bull and nomination to the dignity, he was considered by the Scotch clergy in general, and by the principal tenants and dependents upon the see, as the legal archbishop.

The preference given to Forman discouraged Douglas from pursuing his pretensions; but Hepburn, being supported by the clan of his own name and by the Humes, made so formidable a head against his rivals, that none could be found daring enough to publish the papal bull in favour of Forman. The friends of the latter, however, having intimated to the earl of Hume, that his credit at the court of Rome could easily procure the rich abbey of Coldingham for his younger brother, the earl put himself at the head of his followers, and, notwithstanding all the opposition given by the Hepburns, he proclaimed the pope's bull over the cross of Edinburgh. This daring action plainly proved that the earl of Hume had more power than

the queen-regent herself; but Hepburn's resolution, and the greatness of his friends, obliged Forman to agree to a compromise. Hepburn was advanced to the see of Moray, without accounting for the revenues of the archbishopric, which he had received during its vacancy; and he gave Forman a present of three thousand crowns, to be divided among his friends and followers.

In April 1514, the posthumous son, of whom the queen had been delivered in Stirling castle, was by the bishop of Caithness baptized Alexander. On the 6th of August this year she was married to the earl of Angus; than which nothing could be accounted more impolitic. She had neither consulted her brother nor the states of Scotland in the match; and by her having accepted of a husband, she in fact resigned all claim to the regency under the late king's will. The Douglasses did not dispute her having divested herself of the regency: but they affirmed, that the states might lawfully reinstate her in it; and that the peace of the kingdom required it, as it was the only measure that could preserve the happy tranquillity which then subsisted between Scotland and England. The earl of Hume put himself at the head of the opposition to this proposal. He knew that he had enemies, and he dreaded that the farther aggrandizement of Angus must weaken his interest on the borders. He was joined by a number of the young nobility, who, though otherwise divided, united against Angus. In short, the general opinion was, that the Douglasses were already too great; and that, should the queen be reinstated in the regency, they must be absolute within the kingdom, and engross all places of power and profit. It was added by the earl of Hume, that he had, out of respect to the late king's memory, submitted to the queen's government; and that, now she had made a voluntary abdication of it by her marriage, it ought not to be renewed.

After some deliberations, the duke of Albany was chosen regent. He was a man possessed of all the qualities requisite for a good governor; nor did he deceive the expectations of the public. On his arrival at Glasgow, he took upon him the titles of earl of March, Marr, Garioch, lord of Annandale, and of the isle of Man, regent and protector of the kingdom of Scotland. On his arrival at Edinburgh he was received in form by the three estates of the kingdom, and the queen had met him at some distance from the town. The parliament then resumed its session, and the three estates took an oath of obedience, till the king, then an infant of four years old, should arrive at the years of maturity.

The first thing at which the regent aimed, was the conciliating the differences amongst the various contending families in the kingdom; at the same time that he suppressed some daring robbers, one of whom is said to have had no fewer than 800 attendants in his infamous profession. So great was his love of good order and decency, that he punished the lord Drummond with the loss of his estate for having struck Lyon king at arms, whose person, as the first herald in Scotland, ought to have been held sacred. Nay, it was at the earnest solicitation of Lyon himself, and many of the chief nobility, that a greater punishment was not inflicted. However, the forfeiture was afterwards remitted.

Scotland.

375
The queen-
dowager
married to
the earl of
Angus.

376
The duke
of Albany
chosen re-
gent.

Scotland. remitted; but not before Drummond had, upon his knees, acknowledged his offence, and submitted himself before Lyon.

377
Hepburn
becomes his
chief fa-
vourite.

The regent had not been long in office before he took into favour Hepburn the prior of St Andrew's, whom he consulted for information concerning the state of Scotland. Hepburn acquainted him with all the feuds and animosities which raged among the great families of Scotland, their ferocious character, and barbarous behaviour to their enemies. He represented the civil power as too weak to curb these potent chieftains; and gave it as his opinion that the regent's administration ought to be supported by foreign arms, meaning those of France.

378
He at-
tempts to
destroy the
earl of
Hume.

Hepburn is said also to have gained an ascendancy over the regent by means of large sums of money laid out among his domestics, by a fawning and plausible address, and by well-directed flatteries; and he employed this ascendancy to destroy those who were obnoxious to himself. The earl of Hume, as being the first subject in rank and authority, became obnoxious to the regent through the insinuations of Hepburn; and as that nobleman had frequent occasion to be at court in virtue of his office of chamberlain, he soon perceived that neither he nor his friends were welcome guests there. Alarmed for his own safety, he resolved to form a party amongst with the queen-mother and her new husband against the regent. This was by no means a difficult task: for the queen naturally imagined that her new husband ought to have had some share in the government; and the earl of Angus readily concurred in the scheme. In the mean time, the regent was making a progress through Scotland, while bloody feuds were raging among the nobles: but before any remedy could be applied to these disorders, he was informed of the schemes laid by the queen-mother and her party; and that she had resolved to fly into England with her two infants. On this he instantly returned to Edinburgh; and, as no time was to be lost, set out at midnight that very night, and surprised the castle of Stirling, where he found the queen-mother and her two infants.

The regent, after this bold step, took care to show that the care of the royal infants was his chief study. As he himself was nearly allied to the crown, in order to remove all suspicions and calumnies on that account, he committed the care of the king and his brother to three noblemen of the most unexceptionable characters in the kingdom, but of whom we now know the name only of one, viz. the earl of Lenox. They were appointed to attend the princes by turns; to whom also a guard, consisting partly of French and partly of Scots, was assigned; and the queen-mother was left at liberty to reside where she pleased.

379
Who is
driven into
England.

The earl of Hume, finding his schemes thus abortive, retired to his own estate; from whence he was soon after drawn, and obliged to fly into England, by the earls of Arran and Lenox. The queen-mother retired to a monastery at Coldstream; and messengers were dispatched to the court of England, to know how Henry would have his sister disposed of. He ordered the lord Dacres, his warden of the marches, to attend her to Harbottle-castle in Northumberland; and here she was delivered of her daughter the Lady Mary Douglas, mother to Henry lord Darnley, father to James I.

of England. The regent dispatched ambassadors to Henry, in order to vindicate his own conduct. He likewise sent to assure the queen that she had nothing to fear in Scotland; and to invite her to return thither, where she should at all times be admitted to see her children.

380
The queen
goes to
England.

This offer, however, she declined; and set out for London, where she was affectionately received and entertained by her brother. But in the mean time many disorders were committed throughout the kingdom by the party of the queen-mother; though, by the interposition of archbishop Forman, they were at present terminated without bloodshed, and some of the principal offenders were persuaded to return to their duty. Among these was the earl of Angus himself, the queen's husband; which when king Henry heard, he exclaimed, "That the earl, by deserting his wife, had acted like a Scot." Lord Hume refused to surrender himself, or to accept of the regent's terms; and was of consequence declared a traitor, and his estate confiscated.

381
Her hus-
band sub-
mits to the
regent.

All this time he had been infesting the borders at the head of a lawless banditti; and now he began to commit such devastations, that the regent found it necessary to march against him at the head of 1000 disciplined troops. Hume being obliged to lay down his arms, was sent prisoner to Edinburgh castle; where the regent very unaccountably committed him to the charge of his brother-in-law the earl of Arran. Hume easily found means to gain over this near relation to his own party; and both of them, in the month of October 1515, escaped to the borders, where they soon renewed hostilities. Both the earls were now proclaimed traitors, but Hume was allowed fifteen days to surrender himself. This short interval the regent employed in quashing the rebellion, for which purpose the parliament had allowed him 15,000 men. He besieged the castle of Hamilton, the earl of Arran's chief seat, which was in no condition of defence: but he was prevailed upon by Arran's mother, daughter to James II. and aunt to the regent himself, to forbear further hostilities, and even to pardon her son, provided he should return to his duty. Arran accordingly submitted; but the public tranquillity was not by that means restored. An association, at the head of which was the earl of Moray, the king's natural brother, had been formed against the earl of Huntley. That nobleman was too well attended to fear any danger by day; but his enemies found means to introduce some armed troops in the night-time into Edinburgh. On this a fierce skirmish ensued, in which some were killed on both sides; but farther bloodshed was prevented by the regent, who confined all the lords in prison till he had brought about a general reconciliation. One Hay, who had been very active in stirring up the quarrels, was banished to France; and only the earl of Hume now continued in arms.

382
Rebellion
and com-
motions in
different
places.

In 1516 died the young duke of Rothesay: an event which brought the regent one degree nearer the crown, so that he was declared heir in case of the demise of young James. Negotiations were then entered into about prolonging the truce which at that time subsisted with England; but Henry insisting upon a removal of the regent from his place, they were for the present dropped. Finding, however, that he could neither prevail on the parliament as a body to dismiss the regent, nor form a party of any consequence against him, he

Scotland. he at last consented to a prolongation of the truce for a year.

383
The earl of Hume put to death.

In 1517, the affairs of the regent requiring his presence in France, he resolved, before his departure, to remove the earl of Hume, who, as we have seen, alone continued to disturb the public tranquillity. Under pretence of settling some differences which still remained with England, he called a convention of the nobility; and sent special letters to the earl of Hume and his brother to attend, on account of their great knowledge in English affairs. Both of them imprudently obeyed the summons, and were seized and executed as soon as they arrived at Edinburgh. But whatever occasion there might be for this severity, it lost the affections of the people to such a degree, that the regent could scarce get the place filled up which Lord Hume had possessed. That of lord warden of the marches he at last gave to his French favourite La Beaute, called by historians Sir Anthony D'Arcy. The post of lord chamberlain was given to Lord Fleming. Soon after this, the regent levied an army, on pretence of repressing some disturbances on the borders. These being speedily quelled, he seized on his return upon the earl of Lenox, and forced him to deliver up his castle of

384
The regent goes to France, and the queen returns to Scotland.

Dumbarton; not choosing to leave it, during his intended absence in France, in the custody of a nobleman of suspected fidelity; and from similar motives, he afterwards took him along with him on his departure for the continent. He then procured himself to be nominated ambassador to France, in which character he left the kingdom; having committed the government to the archbishops of St Andrew's and Glasgow, the earls of Arran, Angus, Huntley, and Argyle, with the warden D'Arcy, on whom was his chief dependence.

On the departure of the regent, the queen-mother left the English court; and arrived with a noble retinue at Berwick, on purpose to visit her son. Here she was received by her husband; for whom she had contracted an invincible aversion, either on account of his infidelities to her bed, or because he had deserted her in the manner already related. However, she suppressed her resentment for the present, and accompanied him to Edinburgh. Here, in consequence of the proposals made by the regent, she demanded access to her son; but was refused by D'Arcy. Lord Erskine, however, who was one of those to whom the care of the young king was committed, conveyed him to the castle of Craigmillar (where D'Arcy had no jurisdiction), on pretence that the plague was in Edinburgh; and there the queen was admitted; but this gave such offence to D'Arcy, that Lord Erskine was obliged to carry back the king to the castle of Edinburgh, where all further access was denied to his mother. In short, the behaviour of this favourite was on all occasions so haughty and violent, that he rendered himself universally odious; and was at last murdered, with all his attendants, in his way to Dunse, where he proposed to hold a court of justice.—His death was very little regretted; yet his murderers were prosecuted with the utmost severity, and several persons of distinction declared rebels on that account.

Meanwhile, the regent was treated with high marks of distinction in France. The king showed him the greatest respect, promised to assist in establishing his

authority in Scotland, and solemnly confirmed the ancient league between the two kingdoms. Soon after, the earl of Lenox arrived from France, with assurances of protection and assistance from the king, who was highly pleased at the zeal of the governors in punishing D'Arcy's murderers; and 500 soldiers arrived with him, to reinforce the garrisons, especially that of Dunbar.

All this time the queen-mother continued at Edinburgh, employing herself in attempts to procure a divorce from her husband, under pretence of his having been previously contracted to another. The affairs of the kingdom again began to fall into confusion, and many murders and commotions happened in different parts of the country. The earl of Arran had the chief direction in the state; but the earl of Angus, notwithstanding the difference with his wife, had still great interest, and waited every opportunity to oppose him. This emulation produced an encounter at Edinburgh; in which victory declared for Angus, and 72 of the routed party were killed. This skirmish was fought on the 30th of April 1519, and has been known in Scots history by the name of *Cleanse the Causeway*.

385
The queen attempts to divorce her husband.

386
Skirmish between the followers of the earl of Arran and Angus.

On the 19th of November 1521, the regent returned from France. He found the kingdom in great disorder. The earl of Angus domineered in the field, but his antagonists outvoted his party in the parliament. The queen mother, who had fixed her affections on a third husband, hated all parties almost equally; but joined the duke of Albany, in hopes of his depriving the other two of their power. This happened according to her expectation; and she was with the regent when he made a kind of triumphal entry into Edinburgh, attended by a number of persons of the first rank.—The earl of Angus was now summoned to appear as a criminal; but his wife interceded for him, not out of any remains of affection, but because he gave her no opposition in the process of divorce which was depending between them.—In the mean time, Henry VIII. of England, perceiving that the Scots were entirely devoted to the French interest, sent a letter full of accusations against the regent, and threats against the whole nation, if they did not renounce that alliance. No regard being paid to these requisitions, lord Dacres was ordered to proclaim upon the borders, that the Scots must stand to their peril if they did not fall in with his measures by the first of March 1522. This producing no effect, Henry seized the effects of all the Scots residing in England, and banished them his dominions, after marking them, according to bishop Lesley, with a cross, to distinguish them from his other subjects. A war was the unavoidable consequence of these proceedings; and, on the 30th of April, the earl of Shrewsbury, Henry's steward of the household, and knight of the garter, was appointed commander in chief of the army that was to act against the Scots; and, in the mean time, Lord Dacres made an inroad as far as Kelso, plundering and burning wherever he came.

387
War with England.

The regent ordered his army to rendezvous at Roxburgh; but the Scots, remembering the disaster at Flodden, showed an extreme aversion to the war, and even told the regent to his face, that though they would defend themselves in case they were attacked, they would not engage in a French quarrel. The regent remonstrated,

388
The Scots refuse to invade England.

Scotland. frated, but without effect; and as the malcontents continued obstinate, he was in danger of being left by himself, when the queen-mother interposed, and prevailed upon Lord Dacres to agree to a conference, the event of which was a renewal of the negotiations for peace.

389
The regent goes to France for assistance.

The regent perceiving, by the disgrace of this expedition, that he had lost his former popularity, determined to revenge himself; and therefore told those whom he could trust, that he was about to return to France, from whence he should bring such a force by sea and land, as should render it unnecessary for him to ask leave of the Scots any more to invade England. Accordingly he embarked for France on the 25th of October, but publicly gave out that he would return the ensuing August.

390
The English resolve to intercept him.

On the regent's arrival in France, he made a demand of 10,000 foot and 5000 horse for carrying on the war against England; but the situation of King Francis did not then allow him to spare so many at once, though he was daily sending over ships with men, ammunition, and money, for the French garrisons in Scotland. At last it was publicly known in England that the regent was about to return with a strong fleet, and 4000 of the best troops in France; upon which Henry determined, if possible, to intercept him. Sir William Fitz-Williams, with 36 large ships, was ordered to block up the French squadron in the harbour of Finhead; Sir Anthony Poyntz cruized with another in the western seas, as Sir Christopher Dow and Sir Henry Shireburn did in the northern with a third squadron. The duke of Albany, being unable to cope with Fitz-Williams, was obliged to set out from another port with 12 ships, having some troops on board. They fell in with Fitz-Williams's squadron; two of their ships were sunk, and the rest driven back to Dieppe. Fitz-Williams then made a descent at Treport, where he burnt 18 French ships, and returned to his station off Finhead. By this time the French had given the duke such a reinforcement as made him an overmatch for the English admiral, had the men been equally good; but the regent had no dependence upon French sailors when put in competition with the English. Instead of coming to an engagement, therefore, as soon as Fitz-Williams appeared, he disembarked his soldiers, as if he had intended to delay his expedition for that year; but a storm soon arising, which obliged the English fleet to return to the Downs, the regent took that opportunity of reembarking his men, and, sailing by the western coasts, arrived safe in Scotland.

391
He outwits them, and lands in Scotland.

392
Cruel devastations of the English.

All this time the earl of Surry had been carrying on the most cruel and destructive war against Scotland; insomuch that, according to Cardinal Wolfey, "there was left neither house, fortrefs, village, tree, cattle, corn, nor other succour for man," in the countries of Tweeddale and March. The regent's return did not immediately put a stop to these devastations; for the intestine divisions in Scotland prevented him from taking the field. His party was weakened by his long absence, and the queen-mother had been very active in strengthening the English interest. A parliament was called in 1523, where it was debated, Whether peace or war with England should be resolved on? and the determinations of this parliament were evidently on the worst side of the question. Henry was at this time so

well disposed to cultivate a friendship with Scotland, Scotland. that he offered to James his eldest sister Mary in marriage; but the Scots, animated by the appearance of their French auxiliaries, and corrupted by their gold, rejected all terms, and resolved upon war. However, when the army was assembled, and had advanced to the borders, he found the same difficulty he had formerly experienced; for they flatly refused to enter England. With great difficulty he prevailed upon part of the army to pass the Tweed; but not meeting with success, he was obliged to return to Scotland, which at this time was divided into four factions. One of these was headed by the regent, another by the queen, a third by the earl of Arran, and a fourth by the earl of Angus, who had lived as an exile under Henry's protection. Had it been possible for the earl of Angus and his wife to have been reconciled to each other, it would have been much for the interest of the kingdom; but all the art even of Cardinal Wolfey could not effect this. At last, the duke of Albany, finding all parties united against him, resigned his office of regent of Scotland. On the 14th of March that year, he went on board one of his own ships for France, from whence he never returned to Scotland. He did not indeed make a formal abdication of his government; so far from that, he requested the nobility, whom he convened for that purpose, to enter into no alliance with England during his absence, which he said would continue no longer than the first of September following; to make no alteration in the government; and to keep the king at Stirling.

393
Henry offers peace, which is rejected.

394
The duke of Albany resigns his office of regent.

The nobility, who were impatient for the absence of the regent, readily promised whatever he required, but without any intention of performing it: nor, indeed, was it in their power to comply; for it had been previously determined that James himself should now take the administration into his own hands. According to Buchanan, the regent had no sooner returned to France than Scotland relapsed into all the miseries of anarchy. The queen-dowager had the management of public affairs, but her power was limited. The earl of Arran, apprehending danger from the English, entered into the views of the French party. The queen-mother's dislike to her husband continued as great as ever, which prevented an union among those who were in the English interest; and Wolfey took that opportunity of restoring the earl of Angus to all his importance in Scotland. The queen-mother, therefore, had no other way left to keep herself in power, but to bring James himself into action. On the 29th of July, therefore, he removed from Stirling to the abbey of Holyroodhouse; where he took upon himself the exercise of government, by convoking the nobility, and obliging them to swear allegiance to his person a second time. The truce with England was now prolonged, and the queen's party carried all before them. On the very day in which the last truce was signed with England, the earl of Angus entered Scotland. He had been invited from his exile in France into England, where he was caressed by Henry, who disregarded all his sister's intreaties to send him back to France, and now resolved to support him in Scotland. Yet, though his declared intention in sending the earl to Scotland was, that the latter might balance the French party there, the king enjoined him to sue, in the most humble manner, for a reconciliation with

395
James takes upon himself the government.

396
The earl of Angus returns to Scotland.

Scotland. with his wife, and to co-operate with the earl of Arran, who now acted as prime minister, as long as he should oppose the French party. On his return, however, he found himself excluded from all share in the government, but soon found means to form a strong party in opposition to Arran. In the mean time, ambassadors were sent to the court of England, in order to treat of a perpetual peace between the two nations.

397
Negotiations for peace with England.

At the same time a match was proposed between the young king of Scotland and Henry's daughter. This had originally been a scheme of Henry himself; but the emperor Charles V. had resolved to outbid him, by offering James a princess of his own family, with an immense treasure. The ambassadors arrived at London on the 19th of December, and found Henry very much disposed both to the peace and to the match. Commissioners were appointed to treat of both; but they were instructed to demand by way of preliminary, that the Scots should absolutely renounce their league with France, and that James should be sent for education to England till he should be of a proper age for marriage. The Scottish commissioners declared, that they had no instructions on these points: but one of them, the earl of Cassils, offered to return to Scotland, and bring a definitive answer from the three states; and in the mean time the truce was prolonged to the 15th of May 1525. On his arrival at Edinburgh, he found the earl of Angus the leading man in parliament; by whose influence it was determined that the Scots should renounce their league with France, and substitute in place of it a similar league with England; and that the king should be brought up at the English court till he was of an age proper for marriage: but at the same time they required of Henry to break off all engagements with Charles V. who was the bitter enemy of Francis, and at that time detained him prisoner. To this the English monarch returned but a cold answer, being then engaged in a number of treaties with the emperor, among which one was concerning the marriage of the princess Mary with his imperial majesty himself; however, before Cassils returned, a truce of two years and a half was concluded between England and Scotland.

398
The earl of Angus comes into power.

399
Is opposed by the queen-mother,

400
Who is besieged in Edinburgh castle.

But now the queen-mother, though she had always been a warm advocate for an alliance between the two nations, yet disliked the means of bringing it about.—She saw her husband's party increasing every day in power; so that now she had no other resource than in keeping possession of the king's person, whom she removed to the castle of Edinburgh. Being now under the necessity of convening a parliament, it was resolved to hold it within the castle; which, being an unconstitutional measure, gave a great handle to the earl of Arran and his party to complain of the innovation. They began with remonstrances; but finding them ineffectual, they formed a blockade of the castle with 2000 men, and cut off all communication with the town by means of trenches. As no provisions could thus be got into the castle, the queen ordered some of the cannon to be turned against the town, in order to force the citizens to put an end to the blockade. Several shot were fired: but when all things appeared ready for a civil war, matters were compromised, though in such an imperfect manner as left very little room to hope for perfect tranquillity. It was agreed, that the king should remove out of the castle of Edinburgh to the palace of Holy-

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roodhouse; from whence he should repair with all possible magnificence to his parliament, in the house where it was commonly held; and there a finishing hand was to be put to all differences. This agreement was signed on the 25th of February 1526. The parliament accordingly met, and the king's marriage with the princess of England was confirmed; but no mention was made of the king's being sent for his education into that country; on the contrary, he was committed to the care of eight lords of parliament. These were to have the custody of the king's person, every one his month successively, and the whole to stand for the government of the state; yet with this limitation, "that the king, by their counsel, should not ordain or determine any thing in great affairs to which the queen, as princess and dowager, did not give her consent." This partition of power, by giving the queen a negative in all public matters, soon threw every thing into confusion. The earl of Angus, by leading the king into various scenes of pleasure and dissipation, so gained the ascendancy over him, that he became in a manner totally guided by him. The queen-mother, perceiving that she could not have access to her son, without at the same time being in company with her husband, whom she hated, retired suddenly with her domestics to Stirling. Thus the king was left under the sole tuition of the earl of Angus, who made a very bad use of his power, engrossing into his own hands, or those of his friends, all the places of honour or profit. The archbishop of St Andrew's, having now joined the king's party, advised her to make a formal demand upon her husband, that the order of government which had been settled last parliament should take place, and that under a penalty he should set the king at liberty. To this the earl answered by a kind of manifesto drawn up by his brother; in which he declared, that "the earl of Angus having been so highly favoured by his good uncle the king of England, and that James himself being under great obligations to him, neither the queen nor the other lords need be in any pain about him, as he chose to spend his time with the earl of Angus rather than with any lord in the kingdom." James himself, however, had discernment sufficient to perceive, that, notwithstanding all the fair pretences of the earl of Angus, he was in fact no better than his prisoner; and resolved to attempt the recovery of his liberty. The earls of Argyll and Arran had for some time retired from court, where they had no share in the administration, and were living on their own estates; but the earl of Lenox dissembled his sentiments so well, that he was neither suspected by the earl of Angus, nor any of the Douglas family, who were his partisans. The king being gained upon by his insinuating behaviour, opened his mind to him, and requested his assistance against his treacherous keepers. At the same time he sent letters to his mother, and the heads of her party, by some of his domestics whom Lenox had pointed out, intreating them to remove him from the earl, and not suffer him any longer to remain under his imperious jurisdiction; adding, that if this could not be done by any other means, they should use force of arms.

On receiving this letter, the queen and her party assembled their forces at Stirling, and without loss of time began their march for Edinburgh. Angus, on the other hand, prepared to give them a warm recep-

Scotland.

401
Marriage of James with an English princess resolved on.

402
He is left in the hands of the earl of Angus.

403
Attempts to recover his liberty.

Scotland.

404
Is indisposed.405
The queen-mother divorces her husband.406
The baron of Buccleugh attempts to rescue the king, but is defeated.407
Another attempt by Lenox.

tion, but at the same time to carry along with him the king. This resolution being made known to the queen-mother, she was so much concerned for the safety of her son, that the whole party disbanded themselves; and thus the authority of the earl of Angus seemed to be more established than ever. Nothing, indeed, was now wanting to render him despotic but the possession of the great seal, which the archbishop of St Andrew's had carried with him to Dunfermline. As no deed of any consequence could be executed without this, he prevailed upon the king to demand it by a special message; in consequence of which, the archbishop was obliged to give it up. About this time the divorce which had been so long in agitation between the queen-mother and the earl of Angus actually took place; which, no doubt, increased the dislike of James to his confinement, while the imprudence of Angus gave every day fresh matter of disgust. As Angus knew that he had no firm support but in the attachment of his followers to his person, he suffered them to rob and plunder the estates of his opponents without mercy. These, again, did not fail to make reprisals; so that, towards the end of the year 1526, there was scarcely any appearance of civil government in Scotland. Thus the court became almost totally deserted; every nobleman being obliged to go home to defend his own estate. Even Angus himself shared in the common calamity, and hence was frequently obliged to leave the king to the custody of Lenox. To this nobleman the king now made the most grievous complaints, and charged him to contrive some plan for his escape. Lenox accordingly recommended to him the baron of Buccleugh, who was very powerful in the southern parts, and a violent enemy to Angus and the whole family of Douglas. To him he gave orders to foment the disorders in the southern parts to such a degree as to require the king's personal presence to compose them. Buccleugh was then to attack the party, and take the king by force from the Douglases. This scheme was put in execution, but Buccleugh had the misfortune to be defeated; so that the attempt proved abortive, and James found himself in a worse situation than ever. After this attempt, however, as the earl of Angus could not but know that Lenox had been accessory to it, the former behaved towards him with such visible indifference, that Lenox openly declared against him, and advised the king to form a friendship with the archbishop of St Andrew's, in order to effect his liberty. This was accordingly done; but the interest of the archbishop and Lenox was overbalanced by that of Arran and the Hamilton family, whom the earl of Angus now drew over to his party. However, the earl of Lenox, having received powers from the king for that purpose, suddenly retired from court; and published a manifesto, inviting all loyal subjects to assist him in delivering the king from confinement. In consequence of this he was soon joined by a numerous army, with whom he advanced towards Edinburgh. Angus did not fail to assemble his adherents; and sent orders to the inhabitants of Edinburgh to take the field, with the king at their head. The citizens immediately put themselves under arms; but James, pretending to be indisposed, Sir George Douglas, brother to the earl of Angus, made him the following speech: "Sir, rather than our enemies should take you from us, we will lay hold of your person;

and should you be torn in pieces in the struggle, we will carry off part of your body." Upon this speech, which James never forgot, he mounted his horse and set forward to Linlithgow, but with a very slow pace; inasmuch that Sir George Douglas, afraid of not coming in time to succour his brother, made use of many indecent expressions and actions to push James on to the field of battle. Three expresses arrived from the earl of Angus; the first informing his brother that he was about to engage with a superior army; the second, that Angus was engaged with a division of Lenox's army, commanded by the earl of Glencairn; and that Lenox himself was engaged with the Hamiltons. The third informed him that Lenox, if not actually defeated, was on the point of being so. Upon receiving this last news, James hastened to the field of battle, that he might save Lenox, and put an end to the bloodshed. But he came too late: for the royal party was already defeated with great slaughter; and Lenox himself, after being wounded and taken prisoner, was murdered by Sir James Hamilton.

On the night of the battle, the king was removed to Linlithgow; and though he was under the greatest grief for the fate of Lenox, the behaviour of the Douglases struck him with such terror that he dissembled his sentiments. The earl of Angus led his victorious troops into Fife, in hopes of surprising the queen and the archbishop of St Andrew's. The queen, on the news of his approach, fled, with her new husband Henry Stuart, brother to lord Evandale, to Edinburgh, and both were admitted into the castle. The archbishop fled to the mountains, where he was obliged to keep cattle as a shepherd. Angus, after having plundered the castle of St Andrew's and the abbey of Dunfermline, returned in triumph to Edinburgh, where he prepared to besiege the castle; but the queen, hearing that her son was among the number of the besiegers, ordered the gates of the castle to be thrown open, and surrendered herself and her husband prisoners to James, who was advised to confine them to the castle. After these repeated successes, the earl of Angus established a kind of court of justice, in which he prosecuted those who had opposed him, among whom was the earl of Caithness. He was offered by Sir James Hamilton, natural son to the earl of Arran, the same who had murdered Lenox, an indemnity if he would own himself a vassal of that house; but this condition was rejected. Being called to his trial, and accused of having taken arms against the king, a gentleman of his name and family, who was his advocate, denied the charge, and offered to produce a letter under James's own hand, desiring him to assist in delivering him from his gaolers. This striking evidence confounded the prosecutor so much, that the earl was acquitted; but on his return home he was way-laid and murdered by one Hugh Campbell, at the instigation of Sir James Hamilton.

During these transactions in the south, many of the Highland clans were perpetrating the most horrid scenes of rapine and murder, which in some places reigned also in the Lowlands. The state of the borders was little better than that of the Highlands; but it engaged the attention of Angus more, as he had great interest in these parts. Marching, therefore, against the banditti which infested these parts, he soon reduced them to reason. His power seemed now to be firmly established, inasmuch

Scotland.

408
Who is defeated and killed.409
The queen-mother and archbishop obliged to fly.410
Trial and murder of the earl of Caithness.

Scotland.
411
James
escapes
from his
confinement.

inasmuch that the archbishop of St Andrew's began to treat with Sir George Douglas, to whom he offered lucrative leases and other emoluments if he would intercede with the regent, as Angus was called, in his favour. This was readily agreed to; and the archbishop was allowed to return in safety to his palace about the same time that Angus returned from his expedition against the borderers. Nothing was then seen at court but festivities of every kind, in which the queen-mother, who was now relieved from her confinement, took part: and she was afterwards suffered to depart to the castle of Stirling; which Angus, not attending to its value, had neglected to secure. In the mean time the archbishop invited the Douglasses to spend some days with him at his castle; which they accordingly did, and carried the king along with them. Here James dissembled so well, and seemed to be so enamoured of his new way of life, that Angus thought there could be no danger in leaving him in the hands of his friends till he should return to Lothian to settle some public as well as private affairs. Having taken leave of the king, he left him in the custody of his uncle Archibald, his brother Sir George, and one James Douglas of Parkhead, who was captain of the guards that watched his majesty on pretence of doing him honour. The earl was no sooner gone than the archbishop sent an invitation to Sir George Douglas, desiring him to come to St Andrew's, and there put the last hand to the leases, and finish the bargains that had been spoken of between them. This was so plausible, that he immediately set out for St Andrew's; while his uncle the treasurer went to Dundee, where he had an amour. James thinking this to be the best opportunity that ever presented to him for an escape, resolved to avail himself of it at all events; and found means, by a private message, to apprise his mother of his design. It was then the season for hunting and diversion, which James often followed in the park of Falkland; and calling for his forrester, he told him, that as the weather was fine, he intended to kill a stag next morning, ordering him at the same time to summon all the gentlemen in the neighbourhood to attend him with their best dogs. He then called for his chief domestics, and commanded them to get his supper early, because he intended to be in the field by day-break; and he talked with the captain of his guard of nothing but the excellent sport he expected next morning. In the mean time, he had engaged two young men, the one a page of his own, the other John Hart, a helper about his stables, to attend him in his flight, and to provide him with the dress of a groom for a disguise. Having formally taken leave of his attendants, charging them to be ready early in the morning, and being left alone, he stole softly out of his bed-chamber, went to the stable unperceived by the guards, dressed himself in his disguise; and he and his companions mounting the three best horses there, galloped to Stirling castle; into which, by the queen's appointment, he was admitted soon after day-break. He commanded all the gates to be secured; and the queen having previously prepared every thing for a vigorous defence, orders were given that none should be admitted into the castle without the king's permission.

About an hour after the king escaped from Falkland, Sir George Douglas returned; and being assured that his majesty was asleep, he went to bed. It appears

that James had been seen and known in his flight; for in the morning the bailiff of Abernethy came post-haste to inform Sir George that the king had passed Stirling bridge. They had, however, some glimmering hope that the king might be gone to Bambrigh: but that surmise was soon found to be false; and an express was dispatched, informing Angus of all that had happened. The earl quickly repaired to Falkland, where he and his friends came to a resolution of going to Stirling, and demanding access to the king.

James by this time had issued letters to the earls of Huntley, Argyle, Athol, Glencairn, Menteith, Rothes, and Eglinton; the lords Graham, Levingston, Lindsay, Sinclair, Ruthven, Drummond, Evandale, Maxwell, and Semple. Before all of them could arrive at Stirling, the earl of Angus and his friends were upon their journey to the same place; but were stopped by a herald at arms, commanding them on their allegiance not to approach within six miles of the king's residence. This order having sufficiently intimated what they were to expect, the earl deliberated with his party how to proceed. Some of them were for marching on and taking the castle by surprise: but that was found to be impracticable, especially as they had no artillery. The earl and his brother therefore resolved to make a show of submission to the king's order; and they accordingly went to Linlithgow. By this time all the nobility already mentioned, and many others, had assembled at Stirling; and James, calling them to council, inveighed against the tyranny of the Douglasses with an acrimony that sufficiently discovered what pain it must have given him when he was obliged to bear it in silence. He concluded his speech with these words: "Therefore I desire, my lords, that I may be satisfied of the said earl, his kin, and friends. For I vow that Scotland shall not hold us both, while I be revenged on him and his."

The result of the council's deliberation was, that proclamation should be made, renewing the order for the Douglasses not to approach the court, and divesting the earl of Angus and his brother of all their public employments. In the mean time, such was the moderation of the assembly, that by their advice James ordered the earl to retire to the north of the Spey till his pleasure should be known; but his brother was commanded to surrender himself a prisoner in the castle of Edinburgh, to take his trial in a very full parliament (all the members being summoned to attend), to be held in that city next September. The earl and his brother considered their compliance with those conditions as a prelude to their destruction; and resolved to justify their treasons by still greater excesses, in surprising the town of Edinburgh, and holding it against the king and parliament, before the latter could assemble. Historians have not done that justice to the proceedings of the royal party on this occasion which they deserve. The management of the king's escape, his reception into Stirling, the fortifying that castle, and the ready obedience of his great nobility, some of whom attended him with their followers before they received any summonses for that purpose, are proofs of wise and spirited deliberations. Their conduct at this time was equally consistent with the same plan of foresight.

It was naturally to be supposed that the Douglasses, who remained assembled in a numerous body, would

Scotland.

412
He prepares to revenge himself.

Scotland.

413
His ene-
mies disap-
pointed in
their de-
signs.

414
They are
degraded
and for-
feited.

make the attempt already mentioned; but the royalists had the precaution to dispatch the Lord Maxwell and the baron of Lochinvar, with a body of troops, to take possession of the town, till James could arrive with 2000 forces to their relief. Maxwell and Lochinvar made such dispatch, that they were in possession of the town when the Douglasses appeared before it, and repulsed them; while a most terrible storm had scattered the troops under James before he could come to their assistance, so effectually, that, being left almost without attendants, his person might have been taken by the smallest party of the enemy. Upon the retreat of the Douglasses from Edinburgh, the parliament met; and none of them appearing in pursuance of their summons, the earl of Angus, his brother Sir George Douglas, his uncle Archibald Douglas, and Alexander Drummond of Carnock, with some of their chief dependents, were indicted and forfeited for the following offences: "The assembling of the king's lieges, with intention to have assailed his person; the detaining of the king against his will and pleasure, and contrary to the articles agreed upon, for the space of two years and more; all which time the king was in fear and danger of his life." We know of no advocate for the earl and his friends but one Banantyne, who had the courage to plead their cause against those heinous charges; and so exasperated were both the king and parliament against them, that the former swore he never would forgive them, and the latter that they never would intercede for their pardon. Thus it was not deemed sufficient simply to declare their resolutions; but the solemnity of oaths was added with an intention to discourage the king of England from continuing the vigorous applications he was every day making, by letters and otherwise, for the pardon of Angus; and to shut out all hopes of that kind, James created his mother's third husband (to whom she had been married for some time) lord Methven, and gave him the direction of his artillery.

The disgrace and forfeiture of the Douglasses having created many vacancies in the state, Gavin Dunbar, archbishop of Glasgow, and tutor to the king, was nominated lord chancellor, though but indifferently qualified for a post that ought to have been filled by an able statesman; and Robert Carncross, a person (says Buchanan) more eminent for wealth than virtue, was made treasurer: but this last was soon after displaced, being suspected of favouring the Douglasses; and Robert Barton, one of the king's favourites, was appointed to succeed him. The Douglasses still kept their arms; and being joined by a great number of outlaws and robbers in the south, they ravaged all the lands of their enemies, carrying their devastations to the very gates of Edinburgh. A commission of lieutenancy was offered to the earl of Bothwell to act against those rebels: but he declining it, it was accepted by the earl of Argyll and lord Hume, who did great service in protecting the country from the outlaws. Several villages, however, in the neighbourhood of Edinburgh, were burnt; and all the provisions the Douglasses could find were carried off to their castle of Tantallon, which now served as their head-quarters, and was threatened with a siege.

It is remarkable, that the castle of Dunbar remained still in the hands of the duke of Albany's garrison, who recognised no master but him. The place was well

stored with artillery of all kinds; and lying in the neighbourhood of Tantallon, it was easy to transport them to the siege: but James thought he had no right to make use of them without the consent of one Maurice, governor of the castle. Having summoned, by proclamation, the inhabitants of Fife, Angus, Strathern, Stirlingshire, Lothian, Merse, and Teviotdale, to be ready to compare at Edinburgh on the 10th of December, with 40 days victuals, to assist in the siege, he sent three noblemen to borrow artillery from Maurice, and to remain as pledges for the safe redelivery of the same; and the several pieces required were accordingly sent him. This delicacy is the more remarkable, as we are told that the duke of Albany had given orders that every thing in his castle should be at the king's service. However unanimous the parliament might appear against the Douglasses, yet James was but ill-seconded in this attempt. The unfortunate, if severely proceeded against, generally find friends; and the enemies of the Douglasses had impolitically rendered it treasonable for any person to shelter or protect the earl of Angus, his kinsmen, or followers. This proceeding, in a country where the Douglasses had so many connections, carried with it an appearance of cruelty and a thirst of revenge, especially as James had chosen such a season of the year for carrying on the siege. In short, after battering the place for some days, and losing one Falconer, his chief engineer, the king was obliged to abandon his enterprise, or rather to turn the siege into a blockade, with no great credit to his first essay in the field. Some historians intimate, that Angus found means to corrupt the other engineers; but we find, that before this time, a negotiation was going forward between James and the king of England; the nature of which proves that the former was now rendered more placable towards the Douglasses, and was the true reason why the siege was suspended.

The truce between Scotland and England was now near expiring; and Henry, under that pretence, gave a commission to the prior of Durham, Thomas Magnus, Sir Anthony Ughtred captain of the town and castle of Berwick, William Frankelyn chancellor of Durham, and Sir Thomas Tempest. James seems to have been in no haste to enter upon this negotiation, because he understood that the English commissioners were privately instructed to insist upon the Douglasses being restored to their estates and dignities. England was at that time the principal ally of Francis against the emperor; and this gave a handle for Francis to interpose so far in favour of the Douglasses, that he brought James to consent to a preliminary negotiation for their obtaining at least a secure retreat in England. This was at last complied with.

James being now delivered from all dread of the Douglasses, and under no controul from any party, showed excellent dispositions for government. Finding that the borderers were by no means pleased with the late treaty, and that they were renewing their depredations, he resolved to strike at the root of an evil which had so long proved disgraceful and dangerous to his ancestors, by giving no quarter to the chiefs of these robbers, whose principal residence was in Liddesdale. This was the more necessary, as their daring attempts had exasperated the English so much, that they had actually burnt a town in Teviotdale; and they had killed one Robert

Kerr,

416
James is
disappoint-
ed in his
scheme of
revenge.

417
The Dou-
glasses ob-
tain a se-
cure retreat
in England.

418
James re-
duces the
borderers.

415
They ra-
vage the
southern
parts.

Scotland. Kerr, a man of some consequence. Two of the chiefs of the Scotch borderers were Cockburn of Kenderlaw, and Adam Scot, commonly called *king of the thieves*. Both of them were barons; and had been so inured to the practice, that they thought there was no crime in robbing: they therefore appeared publicly in Edinburgh; where James ordered them to be apprehended, tried, and hanged. He next proceeded with great firmness against many noblemen and principal gentlemen, who were only suspected of being disaffected to the late peace. All of them had behaved with great loyalty, and some of them had done him the most important services. Of this number were the earl of Hume, the lord Maxwell, with the barons of Buccleugh, Farnherst, Polwart, Johnston, and Mark Kerr. Though we know nothing particularly of what was laid to the charge of those noblemen and gentlemen, yet so zealous was James for the impartial administration of justice, that he ordered them all, with many other chief gentlemen of the borders, to be sent to prison; where they lay till they entered into recognizances themselves, and found bail for their good behaviour.

Of all the party of the Douglasses, none of any note excepting Alexander Drummond of Carnock was suffered to return home, at the earnest request of the ambassadors and the treasurer Barton. This lenity was of very little consequence; for James having appointed the earl of Murray to be sole warden of the Scotch marches, with power to treat with the earl of Northumberland, their conferences had broken off on account of fresh violences happening every day; and some information he had received from them, had prevailed with James to imprison the noblemen and gentlemen we have already mentioned. He now resolved to attempt in person what his predecessors and he had so often failed in by their deputies. As he was known to be violently addicted to hunting, he summoned his nobility, even on the north of the Forth, to attend him with their horses and dogs; which they did in such numbers, that his hunting retinue consisted of above 8000 persons, two-thirds of whom were well armed. This preparation gave no suspicion to the borderers, as great hunting-matches in those days commonly consisted of some thousands; and James having set out upon his diversion, is said to have killed 540 deer. Among the other gentlemen who had been summoned to attend him, was John Armstrong of Gilnockhall. He was the head of a numerous clan, who lived with great pomp and splendour upon the contributions under which they laid the English on the borders. He was himself always attended by twenty-six gentlemen on horseback, well mounted and armed, as his body-guards. Having received the king's invitation, he was fond of displaying his magnificence to his sovereign; and attiring himself and his guard more pompously than usual, they presented themselves before James, from whom they expected some particular mark of distinction for their services against the English, and for the remarkable protection they had always given to their countrymen the Scots. On their first appearance, James, not knowing who he was, returned Armstrong's salute, imagining him to be some great no-

419
Hangs
Armstrong,
a noted
robber,
with 26 of
his follow-
ers.

bleman; but upon hearing his name, he ordered him and his followers to be immediately apprehended, and sentenced them to be hanged upon the spot. It is said that James, turning to his attendants, asked them, pointing at Armstrong, "What does that knave want that a king should have, but a crown and a sword of honour?" Armstrong begged hard for his life; and offered to serve the king in the field with forty horsemen, besides making him large presents of jewels and money, with many other tempting offers. Finding the king inexorable, "Fool that I am (said he) to look for warm water under ice, by asking grace of a graceless face;" and then he and his followers submitted to their fate. Those and some other executions of the same kind restored peace to the borders.

HITHERTO we have considered only the civil transactions of Scotland; but henceforth religion will claim a considerable share of the historian's attention. The opinions of Luther had been propagated in Britain soon after his preaching in 1517. They had for some years insensibly gained ground; and, at the time the contentions began between James and his nobility, were become formidable to the established religion. We have seen how James escaped from the hands of his nobles by means of the archbishop of St Andrew's. To the clergy, therefore, he was naturally favourable; and as they of necessity opposed the reformation, James became a zealous persecutor of the reformed. On the other hand, the nobility having already opposed the king and clergy in civil affairs, did so likewise in those of religion. The clergy finding themselves unequal in argument, had recourse to more violent methods. Rigorous inquisitions were made after heretics, and fires were everywhere prepared for them.

The first person who was called upon to suffer for the reformed religion was Patrick Hamilton, abbot of Ferne. At an early period of life he had been appointed to this abbacy; and having imbibed a favourable idea of the doctrines of Luther, he had travelled into Germany, where, becoming acquainted with the most eminent reformers, he was fully confirmed in their opinions. Upon his return to Scotland, he ventured to expose the corruptions of the church, and to insist on the advantages of the tenets which he had embraced. A conduct so bold, and the avidity with which his discourses were received by the people, gave an alarm to the clergy. Under the pretence of a religious and friendly conference, he was seduced to St Andrew's by Alexander Campbell, a dominican friar, who was instructed to remonstrate with him on the subject of the reformation. The conversations they held only served to establish the abbot more firmly in his sentiments, and to inflame his zeal to propagate them. The archbishop of St Andrew's, the archbishop of Glasgow, and other dignitaries of the church, constituting a court, called him to appear before them.

The abbot neither lost his courage nor renounced his opinions. He was convicted accordingly of heretical pravity, delivered over to the secular arm, and executed in the year 1527 (N). This reformer had not attained the

Scotland.

420

Account of
the refor-
mation.

421

Why James
favoured
the clergy.

422

Martyrdom
of Patrick
Hamilton.

(N) His tenets were of the following import, and are enumerated in the sentence pronounced against him.

Scotland. the 24th year of his age. His youth, his virtue, his magnanimity, and his sufferings, all operated in his favour with the people. To Alexander Campbell, who insulted him at the stake, he objected his treachery, and cited him to answer for his behaviour before the judgement-seat of Christ. And this persecutor, a few days after, being seized with a frenzy, and dying in that condition, it was believed with the greater sincerity and confidence, that Mr Hamilton was an innocent man and a true martyr.

423
Excites general indignation.

A deed so affecting, from its novelty and in its circumstances, excited throughout the kingdom an universal curiosity and indignation. Minute and particular inquiries were made into the tenets of Mr Hamilton. Converts to the new opinions were multiplying in every quarter, and a partiality to them began to prevail even among the Romish clergy themselves. Alexander Seton, the king's confessor, took the liberty to inveigh against the errors and abuses of Popery; to neglect, in his discourses, all mention of purgatory, and pilgrimages, and saints; and to recommend the doctrines of the reformed. What he taught was impugned; and his boldness rising with contradiction, he defended warmly his opinions, and even ventured to affirm, that in Scotland there were no true and faithful bishops, if a judgement of men in this station is to be formed from the virtues which St Paul has required of them. A sarcasm so just, and so daring, inflamed the whole body of the prelacy with resentment. They studied to compass his destruction; and, as Mr Seton had given offence to the king, whom he had exhorted to a greater purity of life, they flattered themselves with the hope of conducting him to the stake; but, being apprehensive of danger, he made his escape into England.

424
Henry Forest burnt;

In 1533, Henry Forest, a benedictine friar, who discovered a propensity to the reformed doctrines, was not so fortunate. After having been imprisoned for some time in the tower of St Andrew's, he was brought to his trial, condemned, and led out to the flames. He had said, that Mr Hamilton was a pious man, and a martyr; and that the tenets for which he suffered might be vindicated. This guilt was aggravated by the discovery that friar Forest was in possession of a New Testament in the English language; for the priests esteemed a careful attention to the Scriptures to be an infallible symptom of heresy. A cruelty so repugnant to the common sense and feelings of mankind, while it pleased the insolent pride of the ecclesiastics, was destroying their importance, and exciting a general disposition in the people to adopt in the fullest latitude the principles and sentiments of the reformed.

The following year, James Beaton archbishop of St Andrew's, though remarkable for prudence and moderation, was overawed by his nephew and coadjutor David Beaton, and by the clergy. In his own person, or by commission granted by him, persecutions were carried on with violence. Many were driven into ba-

nishment, and many were forced to acknowledge what Scotland. they did not believe. The more strenuous and resolute were delivered over to punishment. Among these were 425 As also two private gentlemen, Norman Gourlay and David Straton. They were tried at Holyroodhouse before the bishop of Ross; and refusing to recant, were condemned. King James, who was present, appeared exceedingly solicitous that they should recant their opinions; and David Straton, upon being adjudged to the fire, having begged for his mercy, was about to receive it, when the priests proudly pronounced, that the grace of the sovereign could not be extended to a criminal whom their law and determination had doomed to suffer.

A few years after, the bishops having assembled at Edinburgh, two Dominican friars, Killor and Beverage, with Sir Duncan Sympton a priest, Robert Forrester a gentleman of Stirling, and Thomas Forrest vicar of Doulour in Perthshire, were condemned to be consumed in the same fire. 426 With several others

At Glasgow, a similar scene was acted in 1539: Hieronymus Russel a gray-friar, and a young gentleman of the name of Kennedy, were accused of heresy before the bishop of that see. Russel, when brought to the stake, displaying a deliberate demeanour, reasoned gravely with his accusers, and was only answered with reproaches. Mr Kennedy, who was not yet 18 years of age, seemed disposed to disavow his opinions, and to sink under the weight of a cruel affliction; but the exhortation and example of Russel awakening his courage, his mind assumed a firmness and constancy, his countenance became cheerful, and he exclaimed with a joyful voice, "Now, I defy thee, Death; I praise my God, I am ready."

James Beaton, the archbishop of St Andrew's, having died about this time, the ambition of David Beaton, his coadjutor, was gratified in the fullest manner. He had before been created a cardinal of the Roman church, and he was now advanced into the possession of the primacy of Scotland. No Scottish ecclesiastic had been ever invested with greater authority; and the reformers had every thing to fear from so formidable an enemy. The natural violence of his temper had fixed itself in an overbearing insolence, from the success which had attended him. His youth had been passed in scenes of policy and intrigue, which, while they communicated to him address and the knowledge of men, corrupted altogether the simplicity and candour of his mind. He was dark, designing, and artificial. No principles of justice were any bar to his schemes; nor did his heart open to any impressions of pity. His ruling passion was an inordinate love of power; and the support of his consequence depending alone upon the church of Rome, he was animated to maintain its superstitions with the warmest zeal. He seemed to take a delight in perfidiousness and dissimulation: he had no religion; and he was stained with an inhuman cruelty, and

427
Promotion of cardinal Beaton.

428
His character.

"Man hath no free-will. Man is in sin so long as he liveth. Children, incontinent after their baptism, are sinners. All Christians, that be worthie to be called Christians, do know that they are in grace. No man is justified by works, but by faith only. Good works make not a good man, but a good man doth make good works. And faith, hope, and charity, are so knit, that he that hath the one hath the rest; and he that wanteth the one of them wanteth the rest." Keith, *Hist. of the Church and State of Scotland*, Appendix, p. 3.

Scotland. and the most open profligacy of manners. In connection with these defects, he possessed a persevering obstinacy in pursuing his measures, the ability to perceive and to practise all the arts which were necessary to advance them, and the allurements of ostentation and prodigality.

He was scarcely invested in the primacy, when he exhibited an example of his taste for magnificence, and of his aversion to the reformed. He proceeded to St Andrew's with an uncommon pomp and parade. The earls of Huntley, Arran, Marischal, and Montrose, with the lords Fleming, Lindsey, Erskine, and Seton, honoured him with their attendance; and there appeared in his train, Gavin archbishop of Glasgow and lord high chancellor, four bishops, six abbots, a great many private gentlemen, and a vast multitude of the inferior clergy. In the cathedral church of St Andrew's, from a throne erected by his command, he harangued concerning the state of religion and the church, to this company, and to a crowd of other auditors. He lamented the increase of heretics; he insisted upon their audacity and contempt of order; he said, that even in the court of the sovereign too much attention was shown to them; and he urged the strong necessity of acting against them with the greatest rigour. He informed this assembly, that he had cited Sir John Borthwick to appear before it, for maintaining tenets of faith hostile to the church, and for dispersing heretical books; and he desired that he might be assisted in bringing him to justice. The articles of accusation (o) were accordingly read against him; but he neither appeared in his own person, nor by any agent or deputy. He was found, notwithstanding, to be guilty; and the cardinal, with a solemnity calculated to strike with awe and terror, pronounced sentence against him. His goods and estate were confiscated; a painted representation of him was burned publicly, in testimony of the malediction of the church, and as a memorial of his obstinacy and condemnation. It was ordained, that in the event of his being apprehended, he should suffer as a heretic, without hope of grace or mercy. All Christians, whether men or women, and of whatever degree or condition, were prohibited from affording him any harbour or sus-

439
Sir John
Borthwick
impeached.

tenance. It was declared, that every office of humanity, comfort, and solacement, extended to him, should be considered as criminal, and be punished with confiscations and forfeitures.

Sir John Borthwick having been apprised of his danger, fled into England; where he was kindly received by Henry VIII. who employed him in negotiations with the Protestant princes of Germany. Cardinal Beaton perceived with concern that this act of severity did not terrify the people. New defections from the church were announced to him. Andrew Cunningham son to the master of Glencairn, James Hamilton brother to Patrick Hamilton the martyr, and the celebrated George Buchanan the historian, were imprisoned upon suspicions of heresy; and, if they had not found means to escape, must have died at the stake. In this declining condition of Popery, the cardinal held many mournful consultations with the bishops. All their intrigues and wisdom were employed to devise methods to support themselves. The project of an inquisitorial court was conceived, and exhibited a distant view of the extirpation of heretics. To erect this tribunal, they allured James V. with the hopes of the confiscation and spoils, which might enrich him, from the persecution and punishment of the reformed. He yielded himself to their solicitations, and gave them the sanction of his authority.

430
He flies into
England.

A formal commission was granted, constituting a court of inquiry after heretics, and nominating for its president Sir James Hamilton of Fennard, natural brother to the earl of Arran. The officious assiduity of this man, his ambition, and his thirst of blood, were acceptable in a high degree to the clergy; and to this bad eminence their recommendation had promoted him. Upon the slightest suspicion he was allowed to call any person before him, to scrutinize into his creed, and to absolve or to condemn him. A tribunal so dreadful could not have found a director more suited to it. He was in haste to fill the prisons of the kingdom with culprits, and was marking down in lists the names of all those to whom heresy was imputed by popular report, and whom the arts of malicious men had represented as the objects of correction and punishment. But, while he was brooding

431
Sir James
Hamilton
appointed
a kind of
inquisitor.

ing.

(o) They are preserved by archbishop Spotiswood, and display great liberality of mind, in a period when philosophy may be said to have been unknown in Scotland. They are thus detailed by this judicious writer.

1. "That he held the pope to have no greater authority over Christians than any other bishop or prelate had.
2. "That indulgences and pardons granted by the pope were of no force nor effect, but devised to abuse people, and deceive poor ignorant souls.
3. "That bishops, priests, and other clergymen, may lawfully marry.
4. "That the heresies, commonly called *heresies of England*, and their new liturgy, were commendable, and to be embraced of all Christians.
5. "That the people of Scotland are blinded by their clergy, and professed not the true faith.
6. "That churchmen ought not to enjoy temporalities.
7. "That the king ought to convert the rents of the church into other pious uses.
8. "That the church of Scotland ought to be governed after the manner of the English.
9. "That the canons and decrees of the church were of no force, as being contrary to the law of God.
10. "That the orders of the friars and monks should be abolished, as had been done in England.
11. "That he did openly call the pope *simoniac*, for that he sold spiritual things.
12. "That he did read heretical books, and the New Testament in English, and some other treatises written by Melancthon, Oecolampadius, and Erasmus, which he gave likewise unto others.
13. "The last and greatest point was, that he refused to acknowledge the authority of the Roman see, or be subject thereunto." *Hist. of the Church*, p. 70.

Scotland.

ing over mischief, and multiplying in fancy the triumphs of his wickedness, an unexpected turn of affairs presented himself in the light of a criminal, and conducted him to the scaffold.

432
Projects
the ruin of
Patrick
Hamilton's
brother.

The brother of Mr Hamilton the martyr, to avoid persecution, had been obliged to go into banishment; but, by the intercession of his friends, he was permitted to return for a short time to his own country, that he might regulate the affairs of his family. He was connected with Sir James Hamilton; and, trusting to the ties of blood, ventured to prolong his stay beyond the period allotted to him. This trespass was trivial. Sir James Hamilton, being willing to give a signal example of severity, and by this means to ingratiate himself the more with the priesthood, took the resolution to make his own relation the first victim of his power. Mr Hamilton, attentive to his personal security, and not unacquainted with the most private machinations of this inquisitor, dispatched his son to the king, who was about to pass the Forth in a barge, and intreated him to provide for his safety, as Sir James Hamilton had conspired with the house of Douglas to assassinate him. James V. being at variance with the house of Douglas, had reasons of suspicion, and was disposed to believe every thing that is most flagitious of Sir James Hamilton. He instructed the young gentleman to go with expedition to Edinburgh, and to open the matter to the privy-council; and that he might be treated with the greater respect, he furnished him with the ring which he was accustomed to send to them upon those important occasions which required their address and activity. Sir James Hamilton was apprehended and imprisoned. An accusation of having devised and attempted the king's death at different times, was preferred against him. His defence appeared to be weak and unsatisfactory. A jury, which consisted of men of rank and character, pronounced him guilty; and, being condemned to suffer the death of a traitor, he lost his head, and the quarters of his body were exposed upon the gates of the city of Edinburgh. The clergy, who could not prevent his trial and execution, regretted his death, but did not think of appointing a successor to him in their court of inquisition.

434
Condemn-
ed and ex-
ecuted.

435
James re-
gulates the
courts of
justice.

In other respects, however, James showed great concern for the welfare of his people. Being dissatisfied with the ordinary administration of justice, he had recourse to the parliament of Paris for a model of the like institution in Scotland. Great objections lay to injuries in civil matters, and to ambulatory courts of justice. The authority of the heritable jurisdictions was almost exclusive of all law; for though the king might preside in them, yet he seldom did; and appeals before the council were disagreeable and expensive. The institution of the lords of articles threw too much weight into their scale, as no business could be transacted in parliament but what they allowed of and prepared; and it was always in the power of the crown to direct them as the king pleased. The true source of the public grievances, in matters of property, lay in the disregard shown to the excellent acts which had passed during the reigns of the three first James's, and which had not been sufficiently supported in the late reigns. The evil had gathered strength during the minority of James V.; and he resolved to establish a standing jury

for all matters of law and equity (for, properly speaking, the court of session in Scotland is no other), with a president, who was to be the mouth of the assembly. On the 13th of May, this year, as we find by a curious manuscript in the British museum, the lords of the articles laid before the parliament the proposition for instituting this court, in the following words: "Item, anent (concerning) the second artickel concerning the order of justice; because our sovereign lord is maist desirous to have an permanent order of justice for the universal of all his liege; and therefore tendis to institute an college of cunning and wise men for doing and administration of justice in all civil actions: and therefore thinke to be chosen certain persons maist convenient and qualified yair (there), to the number of fifteen persons, half spiritual, half temporal, with an president."

In the year 1533, hostilities were recommenced with England; but after some slight incursions on both sides, a truce again took place. The most remarkable transactions of these years, however, next to the religious persecutions already mentioned, were the negotiations for the king's marriage. Indeed, there is scarce any monarch mentioned in history who seems to have had a greater variety of choices, or who was more difficult to be pleased. The situation of affairs on the continent of Europe, had rendered Scotland a kingdom of great consequence, as holding the balance between France, England, and the emperor of Germany; and each of the rival powers endeavoured to gain the favour of James, by giving him a wife.—In 1534, king Francis offered him his daughter; and the match was strongly recommended by the duke of Albany, who was still living in France, and served James with great fidelity. The same year the Imperial ambassador arrived in Scotland, and presented, in the name of his master, the order of the golden fleece to James, who had already been invested with that of St Michael by Francis. At the same time, he offered him his choice of three princesses; Mary of Austria, the emperor's sister, and widow of Lewis king of Hungary; Mary of Portugal, the daughter of his sister Eleonora of Austria; or Mary of England, the daughter of Catharine and Henry. Another condition, however, was annexed to this proposal, viz. that, to suppress the heresies of the time, a council should be held for obviating the calamities which threatened the Christian religion. Those proposals would have met with a more ready acceptance from James, had not his clergy, at this time, been disgusted with Charles, for allowing too great a latitude to the Protestants of Germany. James, in his answer, returned the emperor his acknowledgments in the most polite terms, for the splendid alliances he had offered him. He touched the proposal of the council as being a measure rather to be wished for than hoped, because it ought to be free and holy, and upon the model of the first councils; its members consisting of the most charitable, quiet, and disinterested part of the clergy. He said, that if such a council could be obtained, he would willingly send ecclesiastics to it; but if not, that every prince ought to reform the errors of doctrine, and the faults of the clergy, within his own dominions. He bewailed the obstinate conduct of his uncle in his divorce and marriage; and offered his best offices for effecting a reconciliation between him and the emperor, wishing

Scotland.
436
Origin of
the court
of session.

437
Negotia-
tions for
the king's
marriage.

438
Offers of
the emper-
or of Ger-
many.

439
Which are
rejected by
James.

Scotland. willing that all the princes of Christendom would unite their arms against their common enemy the Turks. He hinted, very justly, that his Imperial majesty had offered more than he could perform, because his cousin, Mary of England, was not at his disposal. The ambassador replied, that his master, if persuasions failed, would compel Henry by force of arms to resign her. James answered this ridiculous declaration by observing, that the emperor then would be guilty of a breach of all laws both divine and human; that it would be impolitic to give a preference to any of the three princesses, all of them being so illustrious and deserving; but, to show how much he valued an alliance with his Imperial majesty, he would become a suppliant to that prince for his niece, daughter to Christiern king of Denmark, to become his bride. The ambassador's answer to this unexpected request was, that she was already betrothed to the count-palatine, and that before that time the marriage was probably consummated.

440 He marries the king of France's daughter, But whether the Imperial ambassador had any right to offer the English princess or not, it is agreed by most historians, that he was offered either Mary or Elizabeth by their father Henry himself. To Mary of Bourbon, the daughter of the duke of Vendosme, he is said to have been contracted; but for some reason or other all these matches were broken off; and the king at last went to France, where he married Magdalen the eldest daughter of Francis. The nuptials were celebrated at Paris in the year 1537, with great magnificence; and among other things served up by way of desert at the marriage-feast, were a number of covered cups filled with pieces of gold and gold-dust, the native product of Scotland, which James distributed among the guests. This gold was found in the mines of Crawford-moor, which were then worked by the Germans. In the beginning of May, the royal pair embarked for Leith, under convoy of four large ships of war, and landed on the 28th of the same month. The joy of the Scots was inexpressible, but it was of short continuance; for the young queen died of a fever on the 22d of July the same year.

441 Who dies soon after.

442 James rivalled by his uncle in a second marriage.

King James did not long remain a widower; for the same year he sent Beaton abbot of Arbroath, to treat of his second marriage with a French lady, Mary of Guise, duchess-dowager of Longueville. In this he was rivalled by his uncle Henry VIII. but not before James had been contracted to her. But this was nothing to Henry; for he not only insisted upon having this lady for his wife, but threw out some menaces against Francis, because he would not comply with this unjustifiable request. In January 1538, she was married to James, and escorted to Scotland by the admiral of France with a considerable squadron; both James and Francis being suspicious that Henry would make some attempt to intercept the royal bride. But nothing of this kind happened, and she landed safely at Fifeness; from whence she was conducted to the king at St Andrew's.

443 Cruel execution of the heir of the house of Forbes.

But while James appeared thus to be giving himself up to the pleasures of love, he was in other respects showing himself a bloody tyrant. Some differences subsisted between the families of Gordon and Forbes in the north. The heir of the house last-mentioned had been educated in a loose dissipated manner, and kept

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company with a worthless fellow named Strahan. Having refused this favourite something he had asked, the latter attached himself to Gordon earl of Huntley, who, it is said, assisted him in forming a charge of treason against Forbes. He was accused of intending to restore the Douglasses to their forfeited estates and honours; which improbable story being supported by some venal evidences, the unhappy young man was condemned and executed as a traitor. The king could not but see the injustice of this execution; and, in order to make some amends for it, banished Strahan the kingdom. The following execution, which happened a few days after, was much more inhuman, inasmuch that it would have stained the annals even of the most despotic tyrants. The earl of Angus, finding that he could not regain the favour of the king, had recourse to the method usual in those days, viz. the committing of depredations on the borders. This crime was sufficient with James to occasion the death of his innocent sister, the dowager-lady of Glamis. She had been courted by one Lyon, whom she had rejected in favour of a gentleman of the name of Campbell. Lyon, exasperated at his repulse, found means of admittance to James, whom he filled with the greatest terrors on account of the practices of the family of Angus; and at last charged the lady, her husband, and an old priest, with a design of poisoning the king in order to restore Angus. The parties were all remarkable for the quiet and innocent lives they led; and even this circumstance was by their diabolical accuser turned to their prejudice, by representing it as the effect of cunning or caution. In this reign an accusation of treason was always followed by condemnation. However, the evidence against the lady appeared so absurd and contradictory, that some of the judges were for dropping the prosecution, and others for recommending her case to the king; but the majority prevailed to have it determined by a jury, who brought her in guilty; and she was condemned to be burnt alive in the Castle-hill of Edinburgh. The defence she made would have done honour to the ablest orator, and undeniably proved her innocence; but tho' it was reported to James, it was so far from mitigating her sentence, that it was aggravated by her husband being obliged to behold her execution. The unhappy husband himself endeavoured to make his way over the castle wall of Edinburgh; but the rope proving too short, he was dashed in pieces: and lord Glamis her son, though but a child, was imprisoned during the remainder of this reign. The old priest, though put to the torture, confessed nothing, and was freed. Lyon, like the other accuser already mentioned, was banished the kingdom.

Scotland,

444 And of the dowager lady of Glamis.

445 Death of her husband.

446 The king seized with a kind of distraction.

Whether these and other cruelties had affected the king's conscience, or whether his brain had been touched by the distractions of the different parties, is unknown; but it is certain, that, in the year 1540, he began to live retired: his palace appeared like the cloistered retreat of monks; his sleep was haunted by the most frightful dreams, which he construed into apparitions; and the body of Sir James Hamilton, whose execution has already been mentioned, seemed continually present to his eyes. Perhaps the loss of his two sons, who died on the same day that Sir James was executed, might have contributed to bring this man more remarkably

C

ably

Scotland.

447
Hostilities
commence
between
Scotland
and Eng-
land.

ably to his remembrance. No doubt, it added to the gloom of his mind; and he now saw his court abandoned by almost all his nobility.

At last James was in some degree roused from his inaction, by the preparations made against him by his uncle Henry VIII. of England. Some differences had already taken place; to accommodate which, Henry had desired a conference with James at York. But this the latter, by the advice of his parliament, had declined. The consequence was a rupture between the two courts, and the English had taken 20 of the Scots trading vessels. Henry threatened to revive the antiquated claim of the English superiority over Scotland, and had given orders for a formidable invasion of the Scotch borders. He complained that James had usurped his title of Defender of the Faith, to which he had added the word Christian, implying that Henry was an infidel: but the kings of Scotland had, some time before, been complimented by the papal see with that title. James, on the other hand, threw his eyes towards Ireland, the north part of which was actually peopled with inhabitants who owned no sovereign but the king of Scotland, and who offered to serve James against the English; some of their chiefs having actually repaired to Scotland, and done homage to James. Henry had, about this time, declared himself king of Ireland, of which he was before only styled the *lord*; and James roundly asserted, that he had a preferable claim to at least one half of that island, which had been peopled by the subjects of Scotland. Though the Scotch historians of this reign take very little notice of this incident, yet James appears to have been very tenacious of his title; and that there was a vast intercourse carried on between the subjects of Scotland and the northern Irish, who unanimously acknowledged James for their natural sovereign. Indeed, this was the only ground of quarrel that the king, with the least shadow of justice, could allege against Henry.

448
The sove-
reignty of
Ireland
claimed by
both kings

449
An act of
indemnity
for crimes
committed
during the
king's mi-
nority.

His parliament being met, many public-spirited acts were passed; and before the assembly was dissolved, the members renewed the acts against leasing-making; by which is meant the misrepresenting of the king to his nobles, or the nobles to their king: and James, to dismiss them in good humour, passed an act of free grace for all crimes committed in his minority; the earl of Angus, and Sir George and Sir Archibald Douglas, being excepted.

450
Prepara-
tions of
Henry.

Henry, after cutting off the head of his wife Catharine Howard, married and divorced the princess Anne of Cleves, and found himself either deserted or distrusted by all the princes on the continent, Protestant as well as Roman Catholic. James and his clergy relied greatly on this public odium incurred by Henry; but the emperor having again quarrelled with Francis, left Henry, whose dominions they had threatened jointly to invade, at liberty to continue his preparations against the Scots. He first ordered his fleet, then the most formidable of any in the world, to make fresh descents upon Scotland. At the same time, he appointed a very considerable army to rendezvous upon the borders, under the command of Sir Robert Bowes, one of his wardens, the earl of Angus, and his two brothers Sir George and Sir Archibald Douglas. James was every day expecting supplies of money, arms, and other necessities from Francis; but these not arriving,

he reassembled his parliament on the 14th of March, which gratified him in all his demands. Many excellent regulations were made for the internal government, peace, and security of the kingdom, and against the exportation of money instead of merchandise. Acts were passed for fortifying and embellishing the town of Edinburgh, and for better supplying the subjects with wine and all the other necessities of life. The royal revenue was increased by many additional estates; and the last hand was put to one of the best plans for a national militia that perhaps ever appeared. As yet, excepting in the disappointment which Henry met with from his nephew in not meeting him at York, he had no grounds for commencing hostilities. But it is here proper to observe, that the queen-mother was then dead; and consequently the connection between James and Henry was weakened. Whatever her private character might have been, she was certainly a happy instrument of preventing bloodshed between the two kingdoms. She was buried with royal honours at Perth.

Scotland.

451
Death of
the queen-
mother.

James, to all appearance, was at this time in a most desirable situation. His domain, by forfeitures and otherwise, far exceeded that of any of his predecessors. He could command the purses of his clergy; he had large sums of ready money in his exchequer; his forts were well stored and fortified; and he was now daily receiving remittances of money, arms, and ammunition from France. All this show of happiness was only in appearance; for the affections of his nobility, and the wiser part of his subjects, were now alienated from him more than ever, by the excessive attachment he showed to bigotry and persecution.

452
James loses
the affec-
tions of his
subjects.

He had nominated the earl of Huntley to command his army on the borders, consisting of 10,000 men; and his lieutenant-general was Sir Walter Lindsay of Torphichen, who had seen a great deal of foreign service, and was esteemed an excellent officer. Huntley acquitted himself admirably well in his commission; and was so well served by his spies, as to have certain intelligence that the English intended to surprise and burn Jedburgh and Kelso. The English army under Sir Robert Bowes and the Douglasses, with other northern Englishmen, continued still upon the borders; and one of the resolutions the Scotch nobility and gentry had come to, was, not to attack them on their own ground, nor to act offensively, unless their enemies invaded Scotland. Huntly being informed that the English had advanced, on the 24th of August, to a place called *Haldanrig*, and that they had destroyed great part of the Scotch and debateable lands, resolved to engage them: and the English were astonished, when at day-break they saw the Scotch army drawn up in order of battle. Neither party could now retreat without fighting; and Torphichen, who led the van, consisting of 2000 of the best troops of Scotland, charged the English so furiously, that Huntley gained a complete and an easy victory. Above 200 of the English were killed, and 600 taken prisoners; among whom were their general Sir Robert Bowes, Sir William Mowbray, and about 60 of the most distinguished northern barons; the earl of Angus escaping by the swiftness of his horse. The loss of the Scots was inconsiderable.

453
The Eng-
lish defeat-
ed by the
earl of
Huntley.

In the meanwhile, the duke of Norfolk having raised

Scotland. fed a great army, had orders to march northwards, and to disperse a manifesto, complaining of James for having disappointed him of the interview at York, and reviving the ridiculous claim of his own and his ancestors superiority over the kingdom of Scotland. It was plain, from the words of this manifesto, that Henry was still placable towards James; and that he would easily have dropt that claim, if his nephew would have made any personal advances towards a reconciliation.

454
Distraction
of James.

The condition of James was now deplorable. The few faithful counsellors he had about him, such as Kirkaldy of Grange, who was then lord treasurer, plainly intimated, that he could have no dependence upon his nobles, as he was devoted to the clergy; and James, sometimes, in a fit of distraction, would draw his dagger upon the cardinal and other ecclesiastics when they came to him with fresh propositions of murder and proscriptions, and drive them out of his presence. But he had no constancy of mind; and he certainly put into his pocket a bloody scroll that had been brought him by his priests, beginning with the earl of Arran, the first subject of the kingdom. In one of his cooler moments, he appointed the lord Erskine, and some others of his nobility, to make a fresh attempt to gain time; and Henry even condescended to order the duke of Norfolk (who was then advanced as far as York), the lord privy seal, the bishop of Durham, and others, to treat with him. The conferences were short and unsuccessful. The duke bitterly complained, that the Scots sought only to amuse him till the season for action was over. In short, he considered both them and Learmouth, who was ordered to attend him, as so many spies, and treated them accordingly. It was the 21st of October before he entered the east borders of Scotland. According to the Scotch historians, his army consisted of 40,000 men; but the English have fixed it at 20,000.

455
The duke
of Norfolk
enters Scot-
land with a
formidable
army.

James affected to complain of this invasion as being unprovoked; but he lost no time in preparing to repel the danger. The situation of his nobility, who were pressed by a foreign invasion on the one hand, and domestic tyrants on the other, induced them to hold frequent consultations; and in one of them, they resolved to renew the scene that had been acted at Lawder bridge under James III. by hanging all his grandson's evil counsellors. The Scots historians say, that this resolution was not executed, because the nobility could not agree about the victims that were to be sacrificed; and that the king, who was encamped with his army at Fallamoor, having intelligence of their consultation, removed hastily to Edinburgh; from which he sent orders for his army to advance, and give battle to the duke of Norfolk, who appears as yet not to have entered the Scotch borders. The answer of the nobility was, that they were determined not to attack the duke upon English ground; but that if he invaded Scotland, they knew their duty. The earl of Huntley, who commanded the van of the Scottish army, consisting of 10,000 men, was of the same opinion: but no sooner did Norfolk pass the Tweed, than he harassed the English army, cut off their foraging parties, and distressed them in such a manner, that the duke agreed once more to a conference for peace; which was managed, on the part of the Scots, by the bishop of Orkney and Sir James Learmouth; but nothing was con-

457
The Eng-
lish obliged
to retreat.

cluded. The English general, finding it now impossible on many accounts to prosecute his invasion, repassed the Tweed; and was harassed in his march by the earl of Huntley, who desisted from the pursuit the moment his enemies gained English ground.

Scotland.

James, whose army at this time amounted to above 30,000 men, continued still at Edinburgh, from which he sent frequent messages to order his nobility and generals to follow the duke of Norfolk into England; but these were disregarded. James was flattered, that now he had it in his power to be revenged for all the indignities that had been offered by England to Scotland. In this he was encouraged by the French ambassador, and the high opinion he had of his own troops. About the beginning of November, he came to a resolution of reassembling his army, which was disbanded upon the duke of Norfolk's retreat. This project appeared so feasible and so promising, that several of the nobility are said to have fallen in with it, particularly the lord Maxwell, the earls of Arran, Cassils, and Glencairn, with the lords Fleming, Somerville, and Erskine: others represented, but in vain, that the arms of Scotland had already gained sufficient honour, by obliging the powerful army of the English, with their most experienced general at their head, to make a shameful retreat before a handful; that the force of Scotland was inferior to that of England; and that an honourable peace was still practicable. It was said, in reply to those considerations, that the state of the quarrel was now greatly altered; that Henry had in his manifesto declared his intention to enslave their country; that he treated the nobility as his vassals; that the duke of Norfolk had been guilty of burning the dwellings of the defenceless inhabitants, by laying above 20 villages and towns in ashes; and that no Scotchman, who was not corrupted by Henry's gold, would oppose the king's will. The last, perhaps, was the chief argument that prevailed on the lord Maxwell, a nobleman of great honour and courage, to agree to carry the war into England by Solway, provided he was at the head of 10,000 men. It was at last agreed that the earl of Arran and the cardinal should openly raise men, as if they intended to enter the east marches, where they were to make only a feint, while the lord Maxwell was to make the real attempt upon the west. Private letters were everywhere circulated to raise the men who were to serve under the lord Maxwell; among whom were the earls of Cassils and Glencairn, the lords Fleming, Somerville, Erskine, and many other persons of great consideration. James, who never was suspected of want of courage, probably would have put himself at the head of this expedition, had he not been dissuaded from it by his priests and minions, who reminded him of the consultations at Fallamoor, and the other treasonable practices of the nobility. They added, that most of them being corrupted by the English gold, he could not be too much on his guard. He was at last persuaded to repair to the castle of Lochmaben or Carlaverock, and there to wait the issue of the inroad.

458
The Scots
refuse to
pursue.

459
But at last
consent to
invade
England.

It was probably at this place that James was prevailed on to come to the fatal resolution of appointing one Oliver Sinclair, a son of the house of Roslin, and a favourite minion at court, to command the army in chief; and his commission was made out accordingly.

460
Lord Max-
well super-
seded in
the com-
mand by
Oliver Sin-
clair.

Scotland. On the 23d of November, the Scots began their march at midnight; and having passed the Esk, all the adjacent villages were seen in flames by the break of day. Sir Thomas Wharton, the English warden of those marches, the bastard Dacres, and Musgrave, hastily raised a few troops, the whole not exceeding 500 men, and drew them up upon an advantageous ground; when Sinclair, ordering the royal banner to be displayed, and being mounted on the shoulders of two tall men, produced and read his commission. It is impossible to imagine the consternation into which the Scots were thrown upon this occasion; and their leaders setting the example, the whole army declared (according to the Scotch authors), that they would rather surrender themselves prisoners to the English, than submit to be commanded by such a general. In an instant, all order in the Scotch army was broken down; horse and foot, soldiers and scullions, noblemen and peasants, were intermingled. It was easy for the English general to perceive this confusion, and perhaps to guess at its cause. A hundred of his light-horse happened to advance: they met no resistance: the nobles were the first who surrendered themselves prisoners; and the rest of the English advancing, they obtained a bloodless victory; for even the women and the boys made prisoners of Scotch soldiers, and few or none were killed. The lord Herbert relates the circumstances of this shameful affair with some immaterial differences; but agrees with the Scotch authorities upon the whole. He mentions, however, no more than 800 common soldiers having been made prisoners. The chief of the prisoners were the earls of Cassilis and Glencairn, the lords Maxwell, Fleming, Somerville, Oliphant, and Gray, with above 200 gentlemen besides.

461
The Scots
shamefully
defeated at
Solway
Moss.

462
James V.
dies of
grief.

James was then at Carlaverock, which is about 12 miles distant from the place of action, depressed in his spirits, and anxious about the event of the expedition, which is to this day called the *Raid of Solway Moss*. When the news came to his ears, and that the earl of Arran and the cardinal were returned to Edinburgh, he was seized with an additional dejection of mind, which brought him to his grave. In such a situation every cruel action of his former life wounded his conscience; and he at last sunk into a sullen melancholy, which admitted of no consolation. From Carlaverock he removed to Falkland; and was sometimes heard to express himself as if he thought that the whole body of his nobility were in a conspiracy against his person and dignity. The presence of the few attendants who were admitted into his chamber, and who were the wicked instruments of his misconduct, seemed to aggravate his sufferings, and he either could not or would not take any sustenance. His death being now inevitable, Beaton approached his bed-side with a paper, to which he is said to have directed the king's hand, pretending that it was his last will. On the 18th of December, while James was in this deplorable state, a messenger came from Linlithgow, with an account that the queen was brought to bed of a daughter; and the last words he was distinctly heard to say, were, "It will end as it began: the crown came by a woman, and it will go with one; many miseries approach this poor kingdom; king Henry will either master it by arms, or win it by marriage." He then turned his face to the wall, and in broken ejaculations pronounced the word

Solway Moss, and some faint expressions alluding to the disgrace he suffered. In this state he languished for some days; for it is certain he did not survive the 13th.

James V. was succeeded by his infant daughter Mary, whose birth we have already mentioned. James had taken no steps for the security of his kingdom, so that ambitious men had now another opportunity of throwing the public affairs into confusion. The situation of Scotland indeed at this time was very critical. Many of the nobility were prisoners in England, and those who remained at home were factious and turbulent. The nation was dispirited by an unsuccessful war. Commotions were daily excited on account of religion, and Henry VIII. had formed a design of adding Scotland to his other dominions. By a testamentary deed which cardinal Beaton had forged in the name of his sovereign, he was appointed tutor to the queen and governor of the realm, and three of the principal nobility were named to act as his counsellors in the administration. The nobility and the people, however, calling in question the authenticity of this deed, which he could not establish, the cardinal was degraded from the dignity he had assumed; and the estates of the kingdom advanced into the regency James Hamilton, earl of Arran, whom they judged to be entitled to this distinction, as the second person of the kingdom, and the nearest heir, after Mary, to the crown.

The disgrace of cardinal Beaton might have proved the destruction of his party, if the earl of Arran had been endowed with vigour of mind and ability. But his views were circumscribed; and he did not compensate for this defect by any firmness of purpose. He was too indolent to gain partisans, and too irresolute to fix them. Slight difficulties filled him with embarrassment, and great ones overpowered him. His enemies, applying themselves to the timidity of his disposition, betrayed him into weaknesses; and the esteem which his gentleness had procured him in private life, was lost in the contempt attending his public conduct, which was feeble, fluctuating, and inconsistent.

The attachment which the regent was known to profess for the reformed religion, drew to him the love of the people; his high birth, and the mildness of his virtues, conciliated their respect; and from the circumstance, that his name was at the head of the roll of heretics which the clergy had presented to the late king, a sentiment of tenderness was mingled with his popularity. His conduct corresponded, at first, with the impressions entertained in his favour. Thomas Guillaume and John Rough, two celebrated preachers, were invited to live in his house; and he permitted them to declaim openly against the errors of the church of Rome. They attacked and exposed the supremacy of the pope, the worship of images, and the invocation of saints. Cardinal Beaton and the prelates were exceedingly provoked, and indefatigably active to defend the established doctrines.

This public sanction afforded to the reformation was of little consequence, however, when compared with a measure which was soon after adopted by Robert lord Maxwell. He proposed, that the liberty of reading the scriptures in the vulgar tongue should be permitted to the people; and that, for the future, no heretical guilt should be attached to the mother-tongue.

463
succeeded
by Mary.

464
Critical situation
of affairs.

465
Earl of Arran
appointed regent.

466
His character.

467
He becomes popular on account of his attachment to the reformation.

468
The people permitted to read the scriptures in their mother-tongue.

Scotland. should be inferred against any person for having them in his possession, or for making use of them. The regent and the three estates acknowledged the propriety of this proposal. Gavin Dunbar archbishop of Glasgow, and chancellor of Scotland, protested, indeed, for himself and for the church, that no act on this subject should pass and be effectual, till a provincial council of all the clergy of the kingdom should consider and determine, whether there was a necessity that the people should consult and study the scriptures in the vulgar tongue. But his protestation being disregarded, the bill of the lord Maxwell was carried into a law, and the regent made it generally known by a proclamation.

From this period copies of the Bible were imported in great numbers from England; and men, allured by an appeal so flattering to their reason, were proud to recover from the supine ignorance in which they had been kept by an artful priesthood. To read became a common accomplishment: and books were multiplied in every quarter, which disclosed the pride, the tyranny, and the absurdities of the Romish church and superstitions.

469 Henry VIII. proposes to unite the kingdoms by the marriage of Edward VI. with Mary. The death of James V. proved very favourable to the ambitious designs of Henry. He now proposed an union of the two kingdoms by the marriage of his son Edward VI. with Mary the young queen of Scotland. To promote this, he released the noblemen who had been taken prisoners at Solway, after having engaged them on oath, not only to concur in promoting the alliance, but to endeavour to procure him the charge and custody of the young queen, with the government of her kingdom, and the possession of her castles. The earl of Angus and his brother, who had been fifteen years in exile, accompanied them to Scotland, and brought letters from Henry recommending them to the restitution of their honours and estates. The regent was inclined to favour the demands of persons of such eminent station; but though the states were inclined to the marriage, they refused to permit the removal of the queen into England, and treated with contempt the idea of giving the government of Scotland and the care of the castles to the king of England. Sir Ralph Sadler, the English ambassador, exerted all his endeavours to induce the regent to comply with the requisitions of his master; but all his intrigues were unsuccessful; and Henry perceiving that he must depart from such extravagant conditions, at last authorised the commissioners to consent to treaties of amity and marriage, on the most favourable terms that could be procured. In consequence of these powers given to the commissioners, it was agreed that a firm peace and alliance should take place between the two nations, and that they should mutually defend and protect one another in case of an invasion. The queen was to remain within her own dominions till she was ten years of age; and Henry was not to claim any share in the government. Six nobles, or their apparent heirs, were to be surrendered to him in security for the conveyance of the young queen into England, and for her marriage with prince Edward, as soon as she was ten years of age. It was also stipulated, that though the queen should have issue by Edward, Scotland should retain not only its name, but its laws and liberties.

471 The regent opposed by cardinal Beaton,

These conditions, however advantageous to Scotland, yet did not give entire satisfaction. Cardinal

Beaton, who had been imprisoned on pretence of treasonable schemes, and was now released from his confinement by the influence of the queen-dowager, took all opportunities of exclaiming against the alliance, as tending to destroy the independency of the kingdom. He pointed out to the churchmen the dangers which arose from the prevalence of heresy, and urged them to unanimity and zeal. Awakening all their fears and selfishness, they granted him a large sum of money with which he might gain partizans; the friars were instructed to preach against the treaties with England; and fanatical men were instructed to display their rage in offering indignities to Sir Ralph Sadler.

Cardinal Beaton was not the only antagonist the regent had to deal with. The Earls of Argyle, Huntley, Bothwell, and Murray, concurred in the opposition; and having collected some troops, and possessed themselves of the queen's person, they assumed all the authority. They were joined by the earl of Lenox, who was made to hope that he might espouse the queen-dowager and obtain the regency. He was also inclined to oppose the earl of Arran, from an ancient quarrel which had subsisted between their two families; and from a claim he had to supersede him, not only in the enjoyment of his personal estates, but in the succession to the crown. The regent, alarmed at such a powerful combination against him, inclined to attend to some advances which were made him by the queen-dowager and cardinal. To refuse to confirm the treaties, after he had brought them to a conclusion, was, however, a step so repugnant to probity, that he could not be prevailed upon to adopt it. He therefore, in a solemn manner, ratified them in the abbey-church of Holyroodhouse, and commanded the great seal of Scotland to be appended to them. The same day he went to St Andrew's, and issued a mandate to the cardinal, requiring him to return to his allegiance. To this the prelate refused to pay any attention, or to move from his castle; upon which the regent denounced him a rebel, and threatened to compel him to submission by military force. But in a few days after, the pusillanimous regent meeting with Beaton, forsook the interest of Henry VIII. and embraced that of the queen-dowager and of France. Being in haste also to reconcile himself to the church of Rome, he renounced publicly, at Stirling, the opinions of the reformed, and received absolution from the hands of the cardinal.

By this mean-spirited conduct the regent exposed himself to universal contempt, while cardinal Beaton usurped the whole authority. The earl of Lenox, finding that he had no hopes of success in his suit to the queen-dowager, engaged in negotiations with Henry, to place himself at the head of the Scottish lords who were in the English interest, and to assert the cause of the reformation. The consequence of all this was a rupture with England. Henry not only delayed to ratify the treaties on his part, but ordered all the Scottish ships in the harbours of England to be taken and confiscated. This violent proceeding inflamed the national disgusts against the English alliance; and the party of the cardinal and queen-dowager thus obtained an increase of popularity. Henry himself, however, was so much accustom'd to acts of outrage and violence, that he seemed to think the step he had just now taken a matter of no moment; and therefore he demanded

Scotland.

472 And by several noblemen;

473 But confirms the treaties of amity and marriage with England.

474 He abandons the English interest, and renounces the Protestant religion.

475 Henry's violent proceedings.

Scotland. manded that the hostages, in terms of the treaty of marriage, should still be delivered up to him. But the cardinal and regent informed his ambassador, Sir Ralph Sadler, that from their own authority they could not command any of the nobles to be committed to him as hostages; and that the offensive strain of behaviour assumed by the English monarch might have altered the sentiments of the Scottish parliament with regard to a measure of such importance. After much altercation, the conferences were broken off; and as the lords who were released from captivity had promised to return prisoners to England, it now remained with them to fulfil their promise. None of them, however, had the courage to do so, excepting the earl of Cassils; and Henry, being struck with his punctilious sense of honour, dismissed him loaded with presents.

476
The negotiations broken off.

477
The queen crowned.

478
Enmity between cardinal Beaton and the earl of Lennox.

479
Hostilities committed by the latter.

480
Lennox suffers himself to be accused by his enemies.

Cardinal Beaton being thus in possession of power, took measures to secure it. The solemnity of the coronation of the young queen was celebrated at Stirling. A council was chosen to direct and assist the regent in the greater affairs of state, at the head of which was the queen-dowager. John Hamilton, the abbot of Paisley, who had acquired an ascendancy over the regent, was also promoted to the privy seal, and made treasurer of the kingdom; and cardinal Beaton, upon the request of the regent and the three estates, accepted the office of lord high chancellor.

After the flatteries and the hopes with which the earl of Lennox had been amused, the cardinal had reason to dread the utmost warmth of his resentment. He had therefore written to Francis I. giving a detail of the critical situation of affairs in Scotland, and intreating him to recall to France the earl of Lennox, who was now interested to oppose the influence and operations of the queen-dowager. But the indignation with which the treachery of the cardinal had inflamed the earl of Lennox, precipitated him into immediate action, and defeated the intention of this artifice. In the hostile situation of his mind towards Scotland, an opportunity of commencing hostilities had presented itself. Five ships had arrived in the Clyde from France, loaded with warlike stores, and having on board the patriarch of Venice, Peter Contareni, legate from Paul III. with La Brosse, and James Mesnaye, ambassadors from France; and 30,000 crowns, which were to be employed in strengthening the French faction, and to be distributed by the queen-dowager and the cardinal. Prevailing with the commanders of these vessels, who conceived him to be the fast friend of their monarch, he secured this money for his own use, and deposited the military stores in his castle of Dumbarton, under the care of George Stirling the deputy-governor, who at this time was entirely in his interests.

By the successful application of this wealth, the earl of Lennox called forth the full exertion of his party in levying a formidable army, with which he threatened the destruction of the regent and the cardinal, offering them battle in the fields between Leith and Edinburgh. The regent, not being in a condition to accept the challenge of his rival, had recourse to negotiation. Cardinal Beaton and the earl of Huntley proposed terms of amity, and exerted themselves with so much address, that the earl of Lennox, losing the opportunity of chastising his enemies, consented to an accommodation, and indulged anew the hope of obtaining the queen-

dowager in marriage. His army was dismissed, and he threw himself at the feet of his mistress, by whom he was, in appearance, favourably received; but many of his friends were seduced from him under different pretences; and at last, apprehending his total ruin from some secret enterprise, he fled to Glasgow, and fortified himself in that city. The regent, collecting an army, marched against him; and having defeated his friend the earl of Glencairn in a bloody encounter, was able to reduce the place of strength in which he confided. In this ebb of his fortune, the earl of Lennox had no hope but from England.

The revolution produced in the political state of Scotland by the arts of cardinal Beaton, while it defeated the intrigues of Henry VIII. pointed all its strength against the progress of the reformation. After abandoning his old friends, the regent, in connection with the cardinal, was ambitious to undo all the services he had rendered to them. The three estates annulled the treaties of amity and marriage, and empowered commissioners to conclude an alliance with France. The regent discharged the two preachers Guillaume and Rough, whom he had invited to impugn the doctrines of the church. He drove back into England many pious persons, whose zeal had brought them to Scotland, to explain and advance the new opinions. He caressed with particular respect the legate whom the pope had sent to discourage the marriage of the young queen with the prince of Wales, and to promise his assistance against the enterprises of Henry VIII. He procured an act of parliament to be passed for the persecution of heretics; and, upon the foundation of this authority, the most rigorous proceedings were concerted against the reformed; when the arms of England, rousing the apprehensions of the nation, gave the fullest employment to the regent and his counsellors.

In the rage and anguish of disappointed ambition, the earl of Lennox made an offer to assist the views of the king of England; who, treating him as an ally, engaged, in the event of success, to give him in marriage his niece the lady Margaret Douglas, and to invest him in the regency of Scotland. To establish the reformation in Scotland, to acquire the superiority over it to Henry VIII. and to effectuate the marriage of the prince of Wales with the queen of Scots, were the great objects of their confederacy.

Henry, though engaged in a war with France, which required all his military force, could not resist the earliest opportunity in his power to execute his vengeance against Scotland. Edward Seymour earl of Hartford was appointed to command 10,000 men; who were embarked at Tinnmouth, aboard a fleet of 200 ships, under the direction of Sir John Dudley lord Lisle. This army was landed without opposition near Leith; and the earl of Hartford made it known to Sir Adam Otterburn, the provost of Edinburgh, that his commission empowered him to lay the country waste and desolate, unless the regent should deliver up the young queen to the king of England. It was answered, that every extremity of distress would be endured, before the Scottish nation would submit to so ignominious a demand. Six thousand horse from Berwick, under the lord Evers, now joined the earl of Hartford. Leith and Edinburgh, after a feeble resistance, yielded to the English commander; who abandoned them to pillage, and tire.

Scotland. And is obliged to fly.

482
Alliance with France concluded, and the Protestants persecuted.

483
Lennox engages in the English interest.

484
An English army enters Scotland.

485
Who commit cruel devastations, and then suddenly retire.

Scotland. and then set fire to them. A cruel devastation ensued in the surrounding villages and country, and an immense booty was conveyed on board the English fleet. But, while an extreme terror was everywhere excited, the earl of Hartford re-embarked a part of his troops, and ordered the remainder to march with expedition to the frontiers of England.

The regent, assisted by cardinal Beaton and the earls of Huntley, Argyle, Bothwell, and Murray, was active, in the mean time, to collect an army, and to provide for the security of the kingdom. He felt, therefore, the greatest surprise on being relieved so unexpectedly from the most imminent danger; and an expedition, conducted with so little discernment, did not advance the measures of Henry VIII. To accomplish the marriage of the young queen with the prince of Wales, to possess himself of her person, or to achieve a conquest over Scotland, were all circumstances apparently within the reach of the English commander: and yet, in the moment of victory, he neglected to prosecute his advantages; and having inflamed the animosities of the Scottish nation, by a display of the passions and cruelty of his master, left them to recover from their disaster, and to improve in their resources.

486
Ill success
of the earl
of Lenox.

The earl of Lenox, taking the opportunity of the English fleet, went to consult with Henry VIII. upon the desperate state of his affairs. He renewed his engagements with this monarch; and received in marriage the lady Margaret Douglas, with possessions in England. Soon after, he arrived in the frith of Clyde, with 18 ships and 600 soldiers, that he might secure the castle of Dumbarton, and employ himself in plundering and devastation. But George Stirling, to whom the castle was intrusted, refused to surrender it; and even obliged him to reembark his troops. After engaging in a few petty incursions and skirmishes, he returned to England.

487
A truce
concluded
with Eng-
land.

In 1544, Henry consented to a truce; and Scotland, after having suffered the miseries of war, was subjected to the horrors of persecution. The regent had procured an act of parliament for the persecution of the reformed; and the cardinal, to draw to himself an additional splendour and power, had obtained from the pope the dignity of legate *à latere*. A visitation of his own diocese appeared to him the most proper method of commencing the proposed extirpation of heresy; and he carried with him in his train the regent, and many persons of distinction, to assist in his judicatories, and to share in his disgrace.

488
Many cruel
executions
on account
of reli-
gion.

In the town of Perth a great many persons were accused and condemned. The most trifling offences were regarded as atrocious crimes, and made the subjects of prosecution and punishment. Robert Lamb was hanged for affirming that the invocation of saints had no merit to save. William Anderson, James Reynold, and James Finlayson, suffered the same death, for having abused an image of St Francis, by putting horns upon his head. James Hunter, having kept their company, was found to be equally guilty, and punished in the same manner. Helen Stirke, having refused, when in labour, to invoke the assistance of the Virgin, was drowned in a pool of water. Many of the burghesses of Perth, being suspected of heresy, were sent into banishment; and the lord Ruthven, the provost, was upon the same account dismissed from his office.

The cardinal was strenuous in persecuting heresy in other parts of his diocese. But the discontents and clamour attending the executions of men of inferior station were now lost in the fame of the martyrdom of George Wishart; a person who, while he was respectable by his birth, was highly eminent from the opinion entertained of his capacity and endowments. The historians of the Protestant persuasion have spoken of this reformer in terms of the highest admiration. They extol his learning as extensive, insist on the extreme candour of his disposition, and ascribe to him the utmost purity of morals. But while the strain of their panegyric is exposed to suspicion from its excess, they have ventured to impute to him the spirit of prophecy; so that we must necessarily receive their eulogiums with some abatement. It may be sufficient to affirm, that Mr Wishart was the most eminent preacher who had hitherto appeared in Scotland. His mind was certainly cultivated by reflection and study, and he was amply possessed of those abilities and qualifications which awaken and agitate the passions of the people. His ministry had been attended with the most flattering success; and his courage to encounter danger grew with his reputation. The day before he was apprehended, he said to John Knox, who attended him; "I am weary of the world, since I perceive that men are weary of God." He had already reconciled himself to that terrible death which awaited him. He was found in the house of Cockburn of Ormiston, in East Lothian; who refusing to deliver him to the servants of the regent, the earl of Bothwell, the sheriff of the county, required that he should be intrusted to his care, and promised that no injury should be done to him. But the authority of the regent and his counsellors obliged the earl to surrender his charge. He was conveyed to the cardinal's castle at St Andrew's, and his trial was hurried on with precipitation. The cardinal and the clergy proceeding in it without the concurrence of the secular power, adjudged him to be burnt alive. In the circumstances of his execution there appears a deliberate and most barbarous cruelty. When led out to the stake, he was met by priests, who, mocking his condition, called upon him to pray to the virgin, that she might intercede with her Son for mercy to him. "Forbear to tempt me, my brethern," was his mild reply to them. A black coat of linen was put upon him by one executioner, and bags of powder were fastened to his body by another. Some pieces of ordnance were pointed to the place of execution. He spoke to the spectators, intreating them to remember that he was to die for the true gospel of Christ. Fire was communicated to the faggots. From a balcony in a tower of his castle, which was hung with tapestry, the cardinal and the prelates, reclining upon rich cushions, beheld the inhuman scene. This insolent triumph, more than all his afflictions, affected the magnanimity of the sufferer. He exclaimed, that the enemy, who so proudly solaced himself, would perish in a few days, and be exposed ignominiously in the place which he now occupied.

Cardinal Beaton took a pleasure in receiving the congratulations of the clergy upon a deed, which, it was thought, would fill the enemies of the church with terror. But the indignation of the people was more excited than their fears. All ranks of men were disgusted

489
Account of
Mr George
Wishart.

Scotland.

490

Cardinal

Beaton as-

assinated

gusted with an exercise of power which despised every boundary of moderation and justice. The prediction of Mr Wishart, suggested by the general odium which attended the cardinal, was considered by the disciples of this martyr as the effusion of a prophet; and perhaps gave occasion to the assassination that followed. Their complaints were attended to by Norman Lesly, the eldest son of the earl of Rothes, whom the cardinal had treated with indignity, though he had profited by his services. He consented to be their leader. The cardinal was in his castle at St Andrew's, which he was fortifying after the strongest fashion of that age. The conspirators, at different times, early in the morning, entered into it. The gates were secured; and appointing a guard, that no intimation of their proceedings might go to the cardinal, they dismissed from the castle all his workmen separately, to the number of 100, and all his domestics, who amounted to no fewer than 50 persons. The eldest son of the earl of Arran, whom he kept as an hostage for his father's behaviour, was alone detained by them. The prelate, alarmed with their noise, looked from his window, and was informed that his castle was taken by Norman Lesly. It was in vain that he endeavoured to secure the door of his chamber by bolts and chests. The conspirators brought fire, and were ready to apply it, when, admitting them into his presence, he implored their mercy. Two of them struck him hastily with their swords. But James Melvil, rebuking their passion, told them, that this work and judgment of God, though secret, ought to be done with gravity. He reminded the cardinal, in general terms, of the enormity of his sins, and reproached him in a more particular manner with the death of Mr Wishart. He swore, that no hopes of his riches, no dread of his power, and no hatred to his person, were any motives which actuated him; but that he was moved to accomplish his destruction, by the obstinacy and zeal manifested by him against Christ Jesus and his holy gospel. Waiting for no answer to his harangue, he thrust the cardinal three times through the body with his dagger, on the 29th of May 1546.

The rumour that the castle was taken giving an alarm to the inhabitants of St Andrew's, they came in crowds to gratify their curiosity, and to offer their assistance, according to the sentiments they entertained. The adherents and dependents of the cardinal were clamorous to see him; and the conspirators, carrying his dead body to the very place from which he had beheld the sufferings of Mr Wishart, exposed it to their view.

491

Treaty of
peace be-
tween Eng-
land,
France, and
Scotland.

The truce, in the mean time, which had been concluded with England was frequently interrupted; but no memorable battles were fought. Mutual depredations kept alive the hostile spirit of the two kingdoms; and while the regent was making military preparations, which gave the promise of important events, a treaty of peace was finished between England and France, in which Francis I. took care to comprehend the Scottish nation. In this treaty it was stipulated by Henry, that he was not to wage war against Scotland, unless he should be provoked by new and just causes of hostility.

But the murderers of cardinal Beaton, apprehensive of their safety, had dispatched messengers into England, with applications to Henry for assistance; and being joined by more than 120 of their friends, they took the resolution of keeping the castle, and of defending

themselves. Henry, notwithstanding his treaty with Scotland, France, resolved to embrace this opportunity of augmenting the disturbances of Scotland. He hastened to collect troops; and the regent and his counsellors pressed France for supplies in men and money, and military stores and artillery.

The high places which the cardinal occupied were filled up immediately upon his death. John Hamilton abbot of Paisley was elected archbishop of St Andrew's, and George earl of Huntley was promoted to be chancellor. By these officers the regent was urged to proceed with vigour against the conspirators; and it was a matter of the greatest anxiety to him to recover his eldest son, whom they detained in custody. The clergy had, in the most solemn manner, pronounced them to be accursed; and agreed to furnish, for four months, a monthly subsidy of 3000 l. to defray the expence of reducing them to obedience. The queen-dowager and the French faction were eager, at the same time, to concur in avenging the assassination of a man to whose counsels and services they were so greatly indebted. — And that no dangerous use might be made of the eldest son of the earl of Arran, who, after his father, was the heir of the monarchy, an act of parliament was passed, excluding him from his birthright while he remained in the possession of the enemies of his country, and substituting his brothers in his place, according to their seniority. The dark politics of Henry suggested the necessity of this expedient; and in its meaning and tendency there may be remarked the spirit and greatness of a free people.

A powerful army laid siege to the castle of St Andrew's, and continued their operations during four months; but no success attended the assailants. The fortifications were strong; and a communication with the besieged was open by sea to the king of England, who supplied them with arms and provisions. The garrison received his pay, and the principal conspirators had pensions from him. In return for his generosity, they were engaged to promote the marriage of his son with the young queen; to advance the reformation; and to keep in custody the eldest son of the regent. Negotiation succeeded to hostility; and as the regent expected assistance from France, and the conspirators had the prospect of support from an English army, both parties were disposed to gain time. A treaty was entered into and transacted, in which the regent engaged to procure from Rome an absolution to the conspirators, and to obtain to them from the three estates an exemption from prosecutions of every kind. Upon the part of the besieged, it was stipulated, that when these conditions were fulfilled, the castle should be surrendered, and the regent's son be delivered up to him. In the mean time Henry VIII. died; and a few weeks after Francis I. also paid his debt to nature. But the former, before his death, had recommended the prosecution of the Scottish war; and Henry II. the successor of Francis, was eager to show his attention to the ancient ally of his nation. When the absolution arrived from Rome, the conspirators refused to consider it as valid; and an expression used by the pope, implying an absurdity, furnished an apology for their conduct. They knew that the counsellors of Edward VI. were making vigorous preparations to invade Scotland; they were confident of their present ability to defend themselves; and the

492
Proceed-
ings against
the murder-
ers of the
cardinal.493
Castle of
St Andrew's
besieged.494
Death of
Henry VIII.
and Francis
I.

Scotland. advocates for the reformation encouraged them with hopes and with flattery.

495
John Knox
begins to
distinguish
himself.

The favourers of the reformation, in the mean time, adopting the intolerant maxims of the Roman Catholics, were highly pleased with the assassination of Beaton; and many of them congratulated the conspirators upon what they called their godly deed and enterprize. John Rough, who had formerly been chaplain to the regent, entered the castle and joined them. At this time also John Knox began to distinguish himself in an eminent manner, both by his success in argument and the unbounded freedom of his discourse; while the Roman clergy, every where defeated and ashamed, implored the assistance of the regent and his council, who assured them that the laws against heretics should be put in execution.

496
Castle of
St Andrew's
taken.

In the mean time the castle of St Andrew's being invested by a fleet of 16 sail under admiral Strozzi from France, was obliged to capitulate. Honourable conditions were granted to the conspirators; but after being conveyed to France, they were cruelly used, from the hatred entertained by the Catholics against the Protestants. Many were confined in prisons; and others, among whom, says Dr Stuart, was John Knox, were sent to the galleys. The castle itself was rased to the ground.

497
Scotland
invaded by
the Eng-
lish.

The same year, 1547, Scotland was invaded by an English army under the duke of Somerset, who had been chosen protector of England during the minority of Edward VI. The design of this invasion was to oblige the Scots to comply with the scheme of Henry VIII. and conclude a marriage between Edward and the young queen of Scotland. The English army consisted of 18,000 men; besides which the protector had a fleet of 60 sail, one half of which were ships of war, and the others consisted of vessels laden with provisions and military stores. On the other hand, the regent opposed him with an army of 40,000 men. Before the commencement of hostilities, however, the duke of Somerset addressed a letter or manifesto to the government, in which he pressed the marriage with such powerful arguments, and so clearly showed the benefits which would result from it to both nations, that the regent and his party, who were averse to peace, thought proper to suppress it, and to circulate a report that the English had come to force away the queen, and to reduce the kingdom to a state of dependence. All hopes of an accommodation being thus removed, the English army advanced in order to give battle to the Scots. They found the latter posted in the most advantageous situation, around the villages of Musselburgh, Inveresk, and Monckton; so that he could not force them to an action, at the same time that he found himself in danger of having his communication with his ships cut off, which would have totally deprived his army of the means of subsistence. In this dangerous situation he had again recourse to negotiation, and offered terms still more favourable than before. He now declared himself ready to retire into England, and to make ample compensation for the injuries committed by his army, if the Scottish government would promise that the queen should not be contracted to a foreign prince, but should be kept at home till she was of age to choose a husband for herself, with the consent of the nobility. These concessions increased the confidence of the regent so much, that,

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without taking advantage of the strength of his situation, he resolved to come to a general engagement.—

The protector moved towards Pinkey, a gentleman's house to the eastward of Musselburgh; and the regent conceiving that he meant to take refuge in his fleet, changed the strong ground in which he was encamped. He commanded his army to pass the river Esk, and to approach the English forces, which were posted on the middle of Falside-hill. The earl of Angus led on the van; the main body of the battle marched under the regent; and the earl of Huntley commanded in the rear. It was the regent's intention to seize the top of the hill. The lord Gray, to defeat this purpose, charged the earl of Angus, at the head of the English cavalry. They were received upon the points of the Scottish spears, which were longer than the lances of the English horsemen, and put to flight. The earl of Warwick, more successful with his command of infantry, advanced to the attack. The ordnance from the fleet assisted his operations; and a brisk fire from the English artillery, which was planted on a rising ground, served still more to intimidate the Scottish soldiery.— The remaining troops under the protector were moving slowly, and in the best order, to take a share in the engagement. The earl of Angus was not well supported by the regent and the earl of Huntley. A panic spread itself through the Scottish army. It fled in different ways, presenting a scene of the greatest havoc and confusion. Few perished in the fight; but the chase continuing in one direction to Edinburgh, and in another to Dalkeith, with the utmost fury, a prodigious slaughter was made. The loss of the conquerors did not amount to 500 men; but 10,000 soldiers perished on the side of the vanquished. A multitude of prisoners were taken; and among these the earl of Huntley, the lord high chancellor.

Scotland.
498
Battle of
Pinkey.

Amidst the consternation of this decisive victory, the duke of Somerset had a full opportunity of effectuating the marriage and union projected by Henry VIII. and on the subject of which such fond anxiety was entertained by the English nation. But the cabals of his enemies threatening his destruction at home, he yielded to the necessities of his private ambition, and marched back into England. He took precautions, however, to secure an entry into Scotland, both by sea and land. A garrison of 200 men was placed in the isle of St Columba in the Forth, and two ships of war were left as a guard to it. A garrison was also stationed in the castle of Broughty, which was situated in the mouth of the Tay. When he passed through the Merse and Teviotdale, the leading men of these counties repaired to him; and taking an oath of allegiance to king Edward, surrendered their places of strength. Some of these he demolished, and to others he added new fortifications. Hume castle was garrisoned with 200 men, and intrusted to Sir Edward Dudley; and he posted 300 soldiers, with 200 pioneers, in the castle of Roxburgh, under the command of Sir Ralph Bulmer.

499
The Scots
defeated
with great
slaughter.

500
Duke of
Somerset
returns to
England.

The only resource of the regent now was the hope of assistance from France. The young queen was lodged in the castle of Dumbarton, under the care of the lords Erskine and Livingstone; and ambassadors were sent to Henry II. of France, acquainting him with the disaster at Pinkey, and imploring his assistance. The regent

D

had

Scotland.
501
Farther
successes
of the
English.

had asked permission from the protector to treat of peace, and the earl of Warwick was appointed to wait for them at Berwick; but none were ever sent on the part of Scotland. It was not long, therefore, before hostilities were recommenced by the English. Lord Gray led an army into Scotland, fortified the town of Haddington, took the castles of Yester and Dalkeith, laid waste the Merse, and the counties of East and Mid Lothian. On the other hand, in June 1548, Monsieur de Desse, a French officer of great reputation, landed at Leith with 6000 soldiers, and a formidable train of artillery.

In the mean time, the regent was in disgrace on account of the disaster at Pinkey; and the queen-dowager being disposed to supersede his authority, attempted to improve this circumstance to her own advantage. As she perceived that her power and interest could best be supported by France, she resolved to enter into the strictest alliance with that kingdom. It had been proposed that the dauphin of France should marry the queen of Scotland; and this proposal now met with many partizans, the hostilities of the English having lost a great number of friends to the cause of that country. It was resolved to send the queen immediately to France, which would remove the cause of the present contentions, and her subsequent marriage with the dauphin would in the fullest manner confirm the friendship betwixt the two nations. The French government also entered deeply into the scheme; and in order to promote it made presents of great value to many of the Scottish nobility. The regent himself was gained over by a pension of 12,000 livres, and the title of duke of Chatelherault. Monsieur de Villegagnon, who commanded four galleys in the harbour of Leith, making a feint as if he intended to proceed instantly to France, tacked about to the north, and, sailing round the isles, received the queen at Dumbarton; whence he conveyed her to France, and delivered her to her uncles the princes of Lorraine, in the month of July 1548.

502
The queen
sent to
France.

503
The Eng-
lish meet
with seve-
ral checks.

These transactions did not put an end to the military operations. The siege of Haddington had been undertaken as soon as the French auxiliaries arrived, and was now conducted with vigour. To reinforce the garrison, 1500 horse advanced from Berwick; but an ambuscade being laid for them, they were intercepted, and almost totally destroyed. Another body of English troops, however, which amounted only to 300 persons, was more successful. Eluding the vigilance of the Scots and the French, they were able to enter Haddington, and to supply the besieged with ammunition and provisions. The lord Seymour, high admiral of England, made a descent upon Fife with 1200 men, and some pieces of artillery; but was driven back to his ships with great slaughter by James Stuart, natural brother to the young queen, who opposed him at the head of the militia of the county. A second descent was made by him at Montrose; but being equally unsuccessful there, he was obliged to leave Scotland without performing any important or memorable achievement.

Having collected an army of 17,000 men, and adding to it 3000 German Protestants, the protector put it under the direction of the earl of Shrewsbury. Upon the approach of the English, Desse, though he had

been reinforced with 15,000 Scots, thought it more prudent to retreat than to hazard a decisive battle. He raised the siege of Haddington, and marched to Edinburgh. The earl of Shrewsbury did not follow him to force an engagement; jealousies had arisen between the Scots and the French. The insolence and vanity of the latter, encouraged by their superior skill in military arts, had offended the quick and impatient spirit of the former. The fretfulness of the Scots was augmented by the calamities inseparable from war; and after the conveyance of the young queen to France, the efficacious and peculiar advantage conferred upon that kingdom by this transaction was fully understood, and appeared to them to be highly disgraceful and impolitic. In this state of their humour, Desse found not at Edinburgh the reception he expected. The quartering of his soldiers produced disputes, which ended in an insurrection of the inhabitants. The French fired among the citizens. Several persons of distinction fell, and among these were the provost of Edinburgh and his son. The national discontents and inquietudes were driven, by this event, to the most dangerous extremity; and Desse, who was a man of ability, thought of giving employment to his troops, and of flattering the people by the splendour of some martial exploit.

The earl of Shrewsbury, after supplying Haddington with troops, provisions, and military stores, retired with his army into England. Its garrison, in the enjoyment of security, and unsuspicious of danger, might be surprised and overpowered. Marching in the night, Desse reached this important post; and destroying a fort of observation, prepared to storm the main gates of the city, when the garrison took the alarm. A French deserter pointing a double cannon to the thickest ranks of the assailants, the shot was incredibly destructive, and threw them into confusion. In the height of their consternation, a vigorous sally was made by the besieged. Desse renewed the assault in the morning, and was again discomfited. He now turned his arms against Broughty castle; and, though unable to reduce it, he yet recovered the neighbouring town of Dundee, which had fallen into the possession of the enemy. Hume castle was retaken by stratagem. Desse entered Jedburgh, and put its garrison to the sword. Encouraged by this success, he ravaged the English borders in different incursions, and obtained several petty victories. Leith, which from a small village had grown into a town, was fortified by him; and the island of Inchkeith, which is nearly opposite to that harbour, being occupied by English troops, he undertook to expel them, and made them prisoners after a brisk encounter.

His activity and valour could not, however, compose the discontents of the Scottish nation; and the queen-dowager having written to Henry II. to recall him, he was succeeded in his command by Monsieur de Thermes, who was accompanied into Scotland by Monluc bishop of Valence, a person highly esteemed for his address and ability. This ecclesiastic was designed to supply the loss of cardinal Beaton, and to discharge the office of lord high chancellor of Scotland. But the jealousies of the nation increasing, and the queen-dowager herself suspecting his ambition and turbulence, he attained not this dignity, and soon returned to his own country.

Scotland.
504
Quarrels
between the
Scots and
French.

505
Unsuccess-
ful attempt
on Had-
dington.

506
Desse the
French ge-
neral gains
some ad-
vantages.

Scotland. De Thermes brought with him from France a reinforcement of 1000 foot, 2000 horse, and 100 men-at-arms. He erected a fort at Aberlady, to distress the garrison of Haddington, and to intercept its supplies of provision. At Coldingham he destroyed a troop of Spaniards in the English pay. Fast-castle was regained by surprise. Distractions in the English court did not permit the protector to act vigorously in the war. The earl of Warwick was diverted from marching an army into Scotland. An infectious distemper had broke out in the garrison at Haddington; and an apprehension prevailed, that it could not hold out for any length of time against the Scots. The earl of Rutland, therefore, with a body of troops, entered the town; and after setting fire to it, conducted the garrison and artillery to Berwick. The regent, in the possession of Haddington, was solicitous to recover the other places which were yet in the power of the English. De Thermes laid siege to Broughty castle, and took it. He then besieged Lawder; and the garrison was about to surrender at discretion, when the news arrived that a peace was concluded between France, England, and Scotland.

507
Farther success of the French.
508
Peace concluded.

509
The queen-dowager goes to France, and schemes against the regent.

510
Adam Wallace suffers on account of religion.

By this treaty Henry II. obtained the restitution of Boulogne and its dependencies, which had been taken from him by the king of England, and for which he paid 400,000 crowns. No opposition was to be given to the marriage of the queen of Scotland with the dauphin: the fortresses of Lawder and Douglas were to be restored to the Scots, and the English were to destroy the castles of Roxburgh and Eymouth. After the ratification of the articles, the queen-dowager embarked with Leon Strozzi for France, attended by many of the nobility. Having arrived there, she communicated to the king her design of assuming the government of Scotland, and he promised to assist her to the utmost of his power. But the jealousy which prevailed between the Scots and French rendered the accomplishment of this design very difficult. To remove the regent by an act of power might endanger the scheme altogether; but it might be possible to persuade him to resign his office voluntarily. For this purpose intrigues were immediately commenced; and indeed the regent himself contributed to promote their schemes by his violent persecution of the reformed. The peace was hardly proclaimed, when he provoked the public resentment by an action of sanguinary insolence. Adam Wallace, a man of simple manners, but of great zeal for the reformation, was accused of heresy, and brought to trial in the church of the Black Friars at Edinburgh. In the presence of the regent, the earls of Angus, Huntley, Glencairn, and other persons of distinction and rank, he was charged with preaching without any authority of law, with baptizing one of his own children, and with denying the doctrine of purgatory; and it was strenuously objected to him, that he accounted prayers to the saints and the dead to be an useless superstition, that he had pronounced the mass to be an idolatrous service, and that he had affirmed that the bread and wine in the sacrament of the altar, after the words of the consecration, do not change their nature, but continue to be bread and wine. These offences were esteemed too terrible to admit of any pardon.—The earl of Glencairn alone protested against his punishment. The pious sufferer bore with resignation the

contumelious insults of the clergy; and by his courage and patience at the stake gave a sanction to the opinions he had embraced.

Other acts of atrocity and violence stained the administration of the regent. In his own palace, William Crichton, a man of family and reputation, was assassinated by the lord Semple. No attempt was made to punish the murderer. His daughter was the concubine of the archbishop of St Andrew's, and her tears and intreaties were more powerful than justice. John Melvil, a person respectable by his birth and his fortune, had written to an English gentleman, recommending to his care a friend who at that time was a captive in England. This letter contained no improper information in matters of state, and no suspicion of any crime against Melvil could be inferred from it. Yet the regent brought him to trial upon a charge of high treason; and, for an act of humanity and friendship, he was condemned to lose his head. The estate of Melvil, forfeited to his family, was given to David the youngest son of the regent.

Amidst the pleasures and amusements of the French court, the queen-dowager was not inattentive to the scheme of ambition which she had projected. The earls of Huntley and Sutherland, Marischal and Cassilis, with the lord Maxwell, and other persons of eminence who had accompanied her to France, were gained over to her interests. Robert Carnegie of Kinnaird, David Panter bishop of Ross, and Gavin Hamilton commendator of Kilwinning, being also at this time in that kingdom, and having the greatest weight with the regent, were treated with a most punctilious respect. Henry declared to them his earnest wish that the queen-dowager might attain the government of Scotland. In case the regent should consent to this measure, he expressed a firm intention that no detriment should happen to his consequence and affairs; and he desired them to inform him, that he had already confirmed his title of *duke of Chatelherault*, had advanced his son to be captain of the Scots gendarmes in France, and was ready to tender other marks of favour to his family and relations. Upon this business, and with this message, Mr Carnegie was dispatched to Scotland; and a few days after, he was followed by the bishop of Ross. The bishop being a man of eloquence and authority, obtained, though with great difficulty, a promise from the regent to resign his high office; and for this service he received, as a recompense, an abbey in Poitou.

The queen-dowager, full of hopes, now prepared to return to Scotland, and in her way thither made use of a safe-conduct obtained from Edward VI. by the king of France. The English monarch, however, had not yet forgot the beautiful queen of Scotland; and did not fail to urge his superiority of claim to her over the dauphin. The queen-dowager did not seriously enter upon the business; only in general terms complained of the hostilities committed by the English; and two days after this conversation, she proceeded towards Scotland, where she was conducted by the earl of Bothwell, lord Hume, and some other noblemen, to Edinburgh, amidst the acclamations of the people. She had not long been returned to the capital, when the bad conduct of the regent afforded her an opportunity of exerting her influence and address to the advantage of her project. The regent having proposed a judicial circuit through

Scotland.
511
Other instances of the regent's inhumanity and injustice.

512
Schemes of the queen-dowager to obtain the regency.

513
She returns to Scotland.

Scotland.
514
Rapacity
and inju-
rice of the
regent.

the kingdom, under pretence of repressing crimes and disorders, molested the people by plunder and rapine. Great fines were levied for offences pretended as well as real; and the Protestants in particular seemed to be the objects of his displeasure and severity. In his progress he was accompanied by the queen-dowager; and as she affected to behave in a manner directly opposite, the most disagreeable comparisons were made between her and the regent. The bishop of Ross, to whom he had promised to resign his office, did not fail to put him in mind of his engagements; but he had now altered his mind, and wished still to continue in power. His resolution, however, failed him on the first intimation of a parliamentary inquiry into the errors of his administration. An agreement with the queen-dowager then took place; and it was stipulated, that he should succeed to the throne upon the death of the queen without issue; that his son should enjoy the command of the gendarmes; that no inquiry should be made into his expenditure of the royal treasures; that no scrutiny into his government should take place; and that he should enjoy in the most ample manner his duchy and his pension. These articles were ratified at an assembly of parliament, and the queen-dowager was formally invested with the regency.

515
He resigns
his office,
which is
given to
the queen-
dowager.

516
She renders
herself un-
popular.

Mary of Lorraine, the new regent, though she had with great difficulty attained the summit of her wishes, seemed to be much less versant in the arts of government than of intrigue. She was scarcely settled in her new office when she rendered herself unpopular in two respects; one was by her too great attachment to France, and the other by her persecution of the reformed religion. She was entirely guided by the councils of her brothers the duke of Guise and the cardinal of Lorraine; and paid by far too much attention to M. d'Oysel the French ambassador, whom they recommended to her as an able and faithful minister. Several high offices were filled with Frenchmen, which excited in the highest degree the resentment of the Scottish nobility; and the commonalty were instantly prejudiced against her by the partiality she showed to the Papists. At first, however, she enacted many salutary laws; and while she made a progress herself through the southern provinces of the kingdom to hold justiciary courts, she endeavoured to introduce order and law into the western counties and isles; first by the earl of Huntley, and afterwards by the earls of Argyle and Athole, to whom she granted commissions for this purpose with effectual powers. In another improvement, which the queen-regent attempted by the advice of her French council, she found herself opposed by her own people. It was proposed that the possessions of every proprietor of land in the kingdom should be valued and entered into registers; and that a proportional payment should be made by each. The application of this fund was to maintain a regular and standing body of soldiers. This guard or army, it was urged, being at all times in readiness to march against an enemy, would protect effectually the frontiers; and there would no longer be any necessity for the nobles to be continually in motion on

517
Attempts
in vain to
establish a
standing
army.

every rumour of hostility or incursion from English invaders. No art, however, or argument, could recommend these measures. A perpetual tax and a standing army were conceived to be the genuine characteristics of despotism. All ranks of men considered themselves insulted and abused; and 300 tenants of the crown assembling at Edinburgh, and giving way to their indignation, sent their remonstrances to the queen-regent in such strong and expressive language, as induced her to abandon the scheme. Yet still the attempt which she had made left an impression in the minds of the people. They suspected her to be a secret enemy to their government and liberties; and they were convinced that Henry II. was engaging her in refinements and artifices, that he might reduce Scotland to be a province of France.

While an alarm about their civil rights was spread-
ing itself among the people, the Protestants were rising
daily in their spirit and in their hopes. John Knox (P),
whose courage had been confirmed by misfortunes, and
whose talents had improved by exercise, was at this time
making a progress through Scotland. The characteris-
tic peculiarities of Popery were the favourite topics of
his declamation and censure. He treated the mass, in
particular, with the most sovereign contempt, represent-
ing it as a remnant of idolatry. Many of the nobility
and gentry afforded him countenance and protection.
They invited him to preach at their houses, and they
partook with him in the ordinances of religion after the
reformed method. Religious societies and assemblies
were held publicly, in defiance of the Papists; and ce-
lebrated preachers were courted with assiduity and bribes
to reside and officiate in particular districts and towns.
The clergy cited him to appear before them at Edin-
burgh, in the church of the Black-friars. On the ap-
pointed day he presented himself, with a numerous at-
tendance of gentlemen, who were determined to exert
themselves in his behalf. The priesthood did not choose
to proceed in his prosecution; and Knox, encourag-
ed by this symptom of their fear, took the resolution
to explain and inculcate his doctrines repeatedly and
openly in the capital city of Scotland. In 1556, the
earl of Glencairn allured the earl Marischal to hear the
exhortations of this celebrated preacher; and they were
so much affected with his reasonings and rhetoric, that
they requested him to address the queen-regent up-
on the subject of the reformation of religion. In com-
pliance with this request, he wrote a letter in very disa-
greeable terms; and the earl of Glencairn delivered it
with his own hand, in the expectation that some advan-
tage might in this manner be obtained for the reformed.
But the queen-regent was no less offended with the
freedom of the nobleman than the preacher; and, after
perusing the paper, she gave it to James Beaton arch-
bishop of Glasgow, with an expression of disdain, "Here,
my lord, is a pasquil."

Amidst these occupations, John Knox received an in-
vitation to take the charge of the English congregation
at Geneva; which he accepted. The clergy called up-
on him, in his absence, to appear before them, condemn-
ed

518
John Knox
encourages
the reform-
ers.

519
Writes an
offensive
letter to
the queen-
regent.

520
Goes to
Geneva,
and is burnt
in effigy.

(P) When he was sent to France (says Dr Stuart), with the conspirators against Cardinal Beaton, he was confined to the galleys; but had obtained his liberty in the latter end of the year 1549.

Scotland. ed him to death as a heretic, and ordered him to be burned in effigy.

521
Progress of
the reformation.

The injurious treatment of John Knox did not in the least obstruct the progress of the reformation. Desertions were made from Popery in every town and village; and even many members of the church, both secular and regular, were forward to embrace the new principles, and to atone for their past mistakes by the bitterest raileries against the corruptions and the folly of the Romish faith. The priests were treated in all places with ridicule and contempt. The images, crucifixes, and relics, which served to rouse the decaying fervours of superstition, were stolen from the churches, and trampled under foot. The bishops implored the assistance of the queen-regent. Citations were given to the preachers to appear in their defence. They obeyed; but with such a formidable retinue, that it was with difficulty she was permitted to apologise for her conduct. James Chalmers of Gaitgirth, pressing forward from the crowd, addressed himself to her: "We vow to God, that the devices of the prelates shall not be carried into execution. We are oppressed to maintain them in their idleness. They seek to undo and murder our preachers and us; and we are determined to submit no longer to this wickedness." The multitude, applauding his speech, put their hands to their daggers.

A trusty messenger was dispatched to Geneva, inviting John Knox to return to his own country. But in the infancy of their connection, the Protestants being apprehensive of one another, uncertain in their counsels, or being deserted by persons upon whom they had relied, it appeared to them that they had adopted this measure without a due preparation; and, by opposite dispatches, Knox was requested to delay his journey for some time.

522
The first
covenant.

To this zealous reformer their unsteadiness was a matter of serious affliction; and in the answer he transmitted to their letters, he rebuked them with severity: but amidst this correction, he intreated them not to faint under their purposes, from apprehensions of danger, which, he said, was to separate themselves from the favour of God, and to provoke his vengeance. To particular persons he wrote other addresses; and to all of them the greatest attention was paid. In 1557, a formal bond of agreement, which obtained the appellation of *the first covenant*, was entered into, and all the more eminent persons who favoured the reformation were invited to subscribe it. The earls of Argyle, Glencairn, and Morton, with the lord Lorn, and John Erskine of Dun, led the way, by giving it the sanction of their names. All the subscribers to this deed, renouncing the superstitions and idolatry of the church of Rome, promised to apply continually their whole power and wealth, and even to give up their lives, to forward and establish the word of God. They distinguished the reformed, by calling them the *Congregation of Christ*; and by the opprobrious title of the *Congregation of Satan*, they peculiarized the favourers of Popery.

523
John Knox
and Calvin
invited into
Scotland.

After the leaders of the reformation had subscribed the first covenant, they addressed letters to John Knox, urging in the strongest terms his return to Scotland; and that their hopes of his assistance might not be disappointed, they sent an address to John Calvin, the celebrated reformer, begging him to join his commands to their intreaties. The archbishop of St Andrew's, who

perceived the rising storm, was in a difficult situation. A powerful combination threatened ruin to the church; and he had separated himself from the politics of the queen-regent. The zeal of the Roman Catholics pointed out strong measures to him; and his dispositions were pacific. The clergy were offended with his remissness and neglect of duty. The reformers detested his looseness of principles, and were shocked with the dissolute depravity of his life and conversation. He resolved to try the force of address, and did not succeed. He then resolved to be severe, and was still more unsuccessful.

The earl of Argyle was the most powerful of the reformed leaders. To allure him from his party, the archbishop of St Andrew's employed the agency of Sir David Hamilton. But the kindness he affected, and the advices he bestowed, were no compliment to the understanding of this nobleman; and his threats were regarded with scorn. The reformers, instead of losing their courage, felt a sentiment of exultation and triumph; and the earl of Argyle happening to die about this time, he not only maintained the new doctrines in his last moments, but intreated his son to seek for honour in promoting the public preaching of the gospel and Jesus Christ, and in the utter ruin of superstition and idolatry.

It was determined by the archbishop and the prelates, that this disappointment should be succeeded by furious persecution of the reformed. Walter Mill, a priest, had neglected to officiate at the altar; and having been long under the suspicion of heresy, was carried to St Andrew's, committed to prison, and accused before the archbishop and his suffragans. He was in an extreme old age; and he had struggled all his life with poverty. He sunk not, however, under the hardness of his fate. To the articles of his accusation he replied with signal recollection and fortitude. The firmness of his mind, in the emaciated state of his body, excited admiration. The insults of his enemies, and their contempt, served to discover his superiority over them. When the clergy declared him a heretic, no temporal judge could be found to condemn him to the fire. He was respited to another day; and so great sympathy prevailed for his misfortunes, that it was necessary to allure one of the archbishop's domestics to supply the place of the civil power, and to pronounce the sentence of condemnation. When brought to the stake, the resolution of this sufferer did not forsake him. He praised God, that he had been called to seal up the truth with his life; and he conjured the people, as they would escape eternal death, not to be overcome by the errors and the artifices of monks and priests, abbots and bishops.

The barbarity of this execution affected the reformers with inexpressible horror. Subscriptions for mutual defence were taken. The leaders of the reformation, dispersing their emissaries to every quarter, encouraged the vehemence of the multitude. The covenant to establish a new form of religion extended far and wide. The sharp point of the sword, not the calm exertions of inquiry, was to decide the disputes of theology.

When the leaders of the reformation were apprised of the ardent zeal of the people, and considered the great number of subscriptions which had been collected in the different counties of the kingdom, they assembled

Scotland.

524
The arch-
bishop of
St An-
drew's at-
tempts in-
vain to se-
duce the
earl of Ar-
gyle.

525
Walter
Mill exe-
cuted on
account of
religion.

526
The Pro-
testants re-
solve to as-
sert their
rights.

Scotland.
527
Petition
the queen-
regent.

to deliberate concerning the steps to be pursued. It was resolved, accordingly, that a public and common supplication of the whole body of the Protestants should be presented to the queen-regent; which, after complaining of the injuries they had suffered, should require her to bestow upon them her support and assistance, and urge her to proceed in the work of a reformation. To explain their full meaning, a schedule, containing particular demands, was at the same time to be presented to her scrutiny. To Sir James Sandilands of Calder they committed the important charge of their manifesto and articles of reformation; and in appointing him to this commission, they consulted the respect which was due both to the government and to themselves. His character was in the highest estimation. His services to his country were numerous; his integrity and honour were superior to all suspicion; and his age and experience gave him authority and reverence.

The petition or supplication of the Protestants was expressed in strong but respectful terms. They told the queen-regent, that though they had been provoked by great injuries, they had yet, during a long period, abstained from assembling themselves, and from making known to her their complaints. Banishment, confiscation of goods, and death in its most cruel shape, were evils with which the reformed had been afflicted; and they were still exposed to these dreadful calamities. Compelled by their sufferings, they presumed to ask a remedy against the tyranny of the prelates and the estate ecclesiastical. They had usurped an unlimited domination over the minds of men. Whatever they commanded, though without any sanction from the word of God, must be obeyed. Whatever they prohibited, tho' from their own authority only, it was necessary to avoid. All arguments and remonstrances were equally fruitless and vain. The fire, the faggot, and the sword, were the weapons with which the church enforced and vindicated her mandates. By these, of late years, many of their brethren had fallen; and upon this account they were troubled and wounded in their consciences. For conceiving themselves to be a part of that power which God had established in this kingdom, it was their duty to have defended them, or to have concurred with them in an open avowal of their common religion. They now take the opportunity to make this avowal. They break a silence which may be misinterpreted into a justification of the cruelties of their enemies. And disclaiming all farther dissimulation in matters which concern the glory of God, their present happiness, and their future salvation, they demand, that the original purity of the Christian religion shall be restored, and that the government shall be so improved, as to afford to them a security in their persons, their opinions, and their property.

With this petition or supplication of the Protestants, Sir James Sandilands presented their schedule of demands, or the preliminary articles of the reformation. They were in the spirit of their supplication, and of the following tenor.

528
Articles of
the reformation.

I. It shall be lawful to the reformed to peruse the Scriptures in the vulgar tongue; and to employ also their native language in prayer publicly and in private.

II. It shall be permitted to any person qualified by knowledge, to interpret and explain the difficult passages in the Scriptures.

III. The election of ministers shall take place according to the rules of the primitive church; and those who elect shall inquire diligently into the lives and doctrines of the persons whom they admit to the clerical office.

IV. The holy sacrament of baptism shall be celebrated in the vulgar tongue, that its institution and nature may be the more generally understood.

V. The holy sacrament of the Lord's supper shall likewise be administered in the vulgar tongue; and in this communion, as well as in the ceremonial of baptism, a becoming respect shall be paid to the plain institution of Christ Jesus.

VI. The wicked and licentious lives of the bishops and estate ecclesiastical shall be reformed; and if they discharge not the duties of true and faithful pastors, they shall be compelled to desist from their ministry and functions.

The queen-regent now found it necessary to flatter the Protestants. She assured them by Sir James Sandilands, their orator or commissioner, that every thing they could legally desire should be granted to them; and that, in the mean time, they might, without molestation, employ the vulgar tongue in their prayers and religious exercises. But, upon the pretence that no encouragement might be given to tumults and riot, she requested that they would hold no public assemblies in Edinburgh or Leith. The Congregation, for this name was now assumed by the Protestants, were transported with these tender proofs of her regard; and while they sought to advance still higher in her esteem by the inoffensive quietness of their carriage, they were encouraged in the undertaking they had begun, and anxious to accomplish the work of the reformation.

Nor to the clergy, who at this time were holding a provincial council at Edinburgh, did the Congregation scruple to communicate the articles of the intended reformation. The clergy received their demands with a storm of rage, which died away in an innocent debility. Upon recovering from their passions, they offered to submit the controversy between them and the reformed to a public disputation. The Congregation did not refuse this mode of trial; and desired, as their only conditions, that the Scriptures might be considered as the standards of orthodoxy and truth, and that those of their brethren who were in exile and under persecution might be permitted to assist them. These requests, though reasonable in a high degree, were not complied with; and the church would allow no rule of right but the canon law and its own councils. Terms of reconciliation were then offered on the part of the estate ecclesiastical. It held out to the Protestants the liberty of praying and administering the sacraments in the vulgar tongue, if they would pay reverence to the mass, acknowledge purgatory, invoke the saints, and admit of petitions for the dead. To conditions so ineffectual and absurd the Congregation did not deign to return any answer.

The meeting of the parliament approached. The parties in contention were agitated with anxieties, apprehensions, and hopes. An expectation of a firm and open assistance from the queen-regent gave courage to the reformed; and, from the parliamentary influence of their friends in the greater and the lesser baronage, they expected the most important services. They drew up with eagerness the articles which they wished to be passed

Scotland.

529
The Protestants flattered by the queen-regent.

530
They offer to dispute with the Romish clergy.

Scotland.
531
Present
their arti-
cles to the
queen-re-
gent.

passed into a law; and as the spirit and sense of their transactions are to be gathered in the completest manner from the papers which were framed by themselves, it is proper to attend to them with a punctilious exactness. Their petitions were few and explicit.

I. They could not, in consequence of principles which they had embraced from a conviction of their truth, participate in the Romish religion. It was therefore their desire, that all the acts of parliament, giving authority to the church to proceed against them as heretics, should be abrogated; or, at least, that their power should be suspended till the disputes which had arisen were determined and brought to a conclusion.

II. They did not mean that all men should be at liberty to profess what religion they pleased, without the controul of authority. They consented that all transgressors in matters of faith should be carried before the temporal judge. But it was their wish that the clergy should have only the power to accuse; and they thought it conformable to justice, that a copy of the criminal charge should be lodged with the party upon trial, and that a competent time should be allowed him to defend himself.

III. They insisted, that every defence consistent with law should be permitted to the party accused; and that objections to witnesses, founded in truth and reason, should operate to his favour.

IV. They desired that the party accused should have permission to interpret and explain his own opinions; and that his declaration should carry a greater evidence than the deposition of any witness: as no person ought to be punished for religion, who is not obstinate in a wicked or damnable tenet.

V. In fine, they urged, that no Protestant should be condemned for heresy, without being convicted, by the word of God, of the want of that faith which is necessary to salvation.

532
Protest a-
gainst her
proceed-
ings.

The Congregation presented these articles to the queen-regent, expecting that she would not only propose them to the three estates assembled in parliament, but employ all her influence to recommend them. But finding themselves disappointed, they began to suspect her sincerity; and they were sensible that their petitions, though they should be carried in parliament, could not pass into a law without her consent. They therefore abstained from presenting them; but as their complaints and desires were fully known in parliament, they ordered a solemn declaration to be read there in their behalf, and demanded that it should be inserted in the records of the nation. In this declaration, after expressing their regret for having been disappointed in their scheme of reformation, they protested, that no blame should be imputed to them for continuing in their religion, which they believed to be founded in the word of God; that no danger of life, and no political pains, should be incurred by them, for disregarding statutes which support idolatry, and for violating rites which are of human invention; and that, if insurrections and tumults should disturb the realm, from the diversity of religious opinions, and if abuses should be corrected by violence, all the guilt, disorder, and inconvenience thence arising, instead of being applied to them, should be ascribed to those solely who had refused a timely redress of wrongs, and who had despised petitions presented with the humility of faithful subjects, and for the purposes of

Scotland. establishing the commandments of God, and a most just and salutary reformation.

The three estates received this formidable protest with attention and respect; but the intention of inserting it in the national records was abandoned by the Congregation, upon a formal promise from the queen-regent, that all the matters in controversy should speedily be brought by her to a fortunate issue.

While the Protestants were thus making the most vigorous exertions in behalf of their spiritual liberties, the queen-regent, in order to establish herself the more effectually, used every effort to promote the marriage of her daughter with the dauphin of France. In 1557, commissioners were appointed to negotiate this marriage; but while these negotiations were going on, the court of France acted in the most perfidious manner. At the age of 15, after solemnly ratifying the independency of Scotland, and the succession of the crown in the house of Hamilton, queen Mary was influenced by the king and her uncles the princes of Lorraine to sign privately three extraordinary deeds or instruments. By the first she conveyed the kingdom of Scotland to the king of France and his heirs, in the default of children of her own body. By the second she assigned him, if she should die without children, the possession of Scotland, till he should receive a million of pieces of gold, or be amply recompensed for the sums expended by him in the education of the queen of Scotland in France. By the third she confirmed both these grants in an express declaration, that they contained the pure and genuine sentiments of her mind; and that any papers which might be obtained, either before or after her marriage, by means of the Scottish parliament, should be invalid, and of no force nor efficacy. On the 24th of April, the nuptials were celebrated; and the dauphin, Francis, was allowed to assume the title of king of Scotland. The French court demanded for him the crown and other ensigns of royalty belonging to Scotland; but the commissioners had no power to comply with their request. It was then desired, that when they returned home, they should use all their influence to procure the crown-matrimonial of Scotland for the dauphin. This also was refused; the court of France was disgusted; and four of the commissioners died, it was supposed of poison, given them by the princes of Lorraine. This subject, however, was pressed, on the return of the surviving commissioners, by the king of France himself, the queen of Scotland, and the queen-regent. The Protestants also joined their interest, hoping by that means to gain over the queen and queen-regent to their party; so that an act of parliament was at length passed, by which the crown-matrimonial was given to the dauphin during the time of his marriage with queen Mary; but without any prejudice to the liberties of the kingdom, to the heirs of her body, or to the order of succession. With so many restraints, it is difficult to see the advantages which could accrue from this gift so earnestly sought after; and it is very probable, that the usurpations of France in consequence of it, would have been productive of many disturbances; but these were prevented by the death of Francis in December 1560.

But before this event took place, Scotland was, by the intrigues of France, involved in confusion on another account. After the death of Mary queen of Eng-
land,

533
Perfidious
conduct of
the court of
France.

534
Marriage
of the
queen of
Scots with
the dau-
phin of
France.

535
He obtains
the crown
of Scot-
land, but
under cer-
tain restric-
tions.

Scotland. land, and daughter to Henry VIII. the princes of
 536 The queen of Scots claims the crown of England, Guise insisted on the claim of Mary queen of Scots to the crown of England, in preference to that of Elizabeth, whom they looked upon as illegitimate. This claim was supported by the king of France, who prevailed with the queen of Scots herself to assume the title of queen of England, and to stamp money under that character. The arms of England were quartered with those of France and Scotland; and employed as

537 Which lays the foundation of a quarrel with Elizabeth. ornaments for the plate and furniture of Mary and the dauphin. Thus was laid the foundation of an irreconcilable quarrel between Elizabeth and Mary; and to this, in some measure, are we to ascribe the inveteracy with which the former persecuted the unhappy queen of Scotland, at every time she had it in her power.

538 Scheme to destroy all the leaders of the Protestant party in Scotland. But while they imprudently excited a quarrel with England, they yet more imprudently quarrelled also with the majority of the people of Scotland. As Elizabeth professed the Protestant religion, it was easily foreseen, that the *Congregation*, or body of the reformed in Scotland, would never consent to act against her in favour of a Popish power; and as they could not be gained, it was resolved to destroy them at once, by putting to death all their leaders. The queen-regent gave intimation of her design to re-establish Popery, by proclaiming a solemn observance of Easter, receiving the sacrament according to the Romish communion, herself, and commanding all her household to receive it in the same manner. She next expressed herself in a contemptuous manner against the reformed, affirmed that they had insulted the royal dignity, and declared her intention of restoring it to its ancient lustre. The preachers of the *Congregation* were next cited to appear at Stirling, to answer the charges which might be brought against them. Alexander earl of Glencairn, and Sir Hugh Campbell of Loudon, were deputed to admonish her not to persecute the preachers, unless they had been obnoxious by circulating erroneous doctrines, or disturbing the peace of government. The queen-regent in a passion told them, that the preachers should all be banished Scotland, though their doctrines were as sound as those of St Paul. The deputies urged her former kind behaviour and promises; but the queen-regent answered, that "the promises of princes ought not to be exacted with rigour, and that they were binding only when subservient to their convenience and pleasure." To this they replied, that in such a case they could not look upon her as their sovereign, and must renounce their allegiance as subjects.

540 Proceedings against the Protestants. Soon after this transaction, the queen-regent received the news that the reformation was established in Perth. Lord Ruthven the provost of the city was summoned to answer for this innovation; but his reply was, that he had no dominion over the minds and consciences of men. The provost of Dundee, being ordered to apprehend an eminent preacher, named *Paul Methuen*, sent him intelligence of the order, that he might provide for his safety. The proclamation for observing Easter was everywhere despised and neglected, and people exclaimed against the mass as an idol. New citations, in the mean time, had been given to the preachers to appear at Stirling. They obeyed the summons; but attended by such multitudes, that the queen-regent, dreading their power, though they were

541 They become formidable by their numbers.

without arms, intreated Mr Erskine of Dun, whom Scotland. they had sent before as a deputy, to stop their march; assuring him that all proceedings against the preachers should be stopped. In consequence of this, the multitude dismissed; yet, when the day came on which the preachers should have appeared, the queen-regent, with unparalleled folly as well as treachery, caused them to be declared traitors, and proclaimed it criminal to afford them any subsistence.

Mr Erskine, exasperated by this shameful conduct, hastened to the *Congregation*, apologised for his conduct, and urged them to proceed to the last extremities. At this critical period also John Knox returned 542 John Knox returns to Scotland. from Geneva, and joined the *Congregation* at Perth. The great provocations which the Protestants had already received, joined to the impetuous passions of the multitude, were now productive of the greatest disorders. Images were destroyed, monasteries pulled down, and their wealth either seized by the mob or given to the poor. The example of Perth was followed by Cupar in Fife; and similar insurrections being apprehended in other places, the queen-regent determined to punish the inhabitants of Perth in the most exemplary manner. With this view she collected an army: but being opposed with a formidable power by the Protestants, she thought proper to conclude an agreement. 543 The Protestants, however, dreaded her insincerity; and Second covenant. therefore entered into a new covenant to stand by and defend one another. Their fears were not vain. The Treachery of the queen-regent. queen-regent violated the treaty almost as soon as made, and began to treat the Protestants with severity. The earl of Argyle, and the prior of St Andrew's, who about this time began to take the title of *lord James Stuart*, now openly headed the Protestant party, and prepared to collect their whole strength. The queen-regent opposed them with what forces she had, and which indeed chiefly consisted of her French auxiliaries; but, being again afraid of coming to an engagement, she consented to a truce until commissioners should be sent to treat with the lords of an effectual peace. No commissioners, however, were sent on her part; and the nobles, provoked at such complicated and unceasing treachery, resolved to push matters to the utmost extremity. The first exploit of the reformed was the 544 Perth taken by the Protestants. taking of the town of Perth, where the queen-regent had placed a French garrison. The multitude, elated with this achievement, destroyed the palace and abbey of Scone, in spite of all the endeavours of their leaders, even of John Knox himself, to save them. The queen-regent, apprehensive that the *Congregation* would commit farther ravages to the southward, resolved to throw a garrison into Stirling; but the earl of Argyle and lord James Stuart were too quick for her, and arrived there the very day after the demolition of the abbey and palace of Scone. The people, incapable of restraint, and provoked beyond measure by the perfidious behaviour of the Catholic party, demolished all the monasteries in the neighbourhood, together with the fine abbey of Cambuskenneth, situated on the north bank of the Forth. From Stirling they went to Linlithgow, where they committed their usual ravages; after which, they advanced to Edinburgh. The queen-regent, alarmed at their approach, fled to Dunbar; and the Protestants took up their residence in Edinburgh. 545 The queen-regent flies to Dunbar, and the Protestants become masters of Edinburgh.

Having thus got possession of the capital, the *Congregation*

Scotland. gregation assumed to themselves the ruling power of the kingdom, appointed preachers in all the churches, and seized the mint, with all the instruments of coining. The queen-regent, unable to dispute the matter in the field, published a manifesto, in which she set forth their seditious behaviour, commanding them to leave Edinburgh within six hours, and enjoining her subjects to avoid their society under the pain of treason. The Congregation having already lost somewhat of their popularity by their violent proceedings, were now incapable of coping with government. As they had not established themselves in any regular body, or provided a fund for their support, they felt their strength decay, and multitudes of them returned to their habitations. Those who remained found themselves obliged to vindicate their conduct; and, in an address to the regent, to disclaim all treasonable intentions. Negotiations again took place, which ended as usual; the queen-regent, who had taken this opportunity of collecting her forces, marched against the Congregation on the 23d of July 1559. The Protestants now found themselves incapable of making head against their enemies; and therefore entered into a negotiation, by which all differences were for the present accommodated. The terms of this treaty were, that the town of Edinburgh should be open to the queen-dowager and her attendants; that the palace of Holyroodhouse and the mint should be delivered up to her; that the Protestants should be subject to the laws, and abstain from molesting the Roman Catholics in the exercise of their religion. On the queen's part, it was agreed, that the Protestants should have the free exercise of their religion, and that no foreign troops should enter the city of Edinburgh.

546
They lose
their popu-
larity, and
fall into
distress.

547
A treaty
concluded.

548
Third co-
venant.

549
The treaty
broken by
the queen-
regent.

550
France sup-
ports the
Catholic
party.

Notwithstanding this treaty, however, the reformed had no confidence in the queen's sincerity. Having heard of the death of Henry II. of France, and the accession of Francis II. and Mary to that kingdom, they seem to have apprehended more danger than ever. They now entered into a third covenant; in which they engaged themselves to refuse attendance to the queen-dowager, in case of any message or letter; and that immediately on the receipt of any notice from her to any of their number, it should be communicated without reserve, and be made a common subject of scrutiny and deliberation. It was not long before they had occasion for all their constancy and strength. The queen-regent repented of the favourable terms she had granted the reformed; and being denied the favour which she requested of saying mass in the high-church of Edinburgh, she ordered them to be everywhere disturbed in the exercise of their religion.

In this imprudent measure, the queen-regent was confirmed by letters which now came from Francis and Mary, promising a powerful army to support her interests. The envoy who brought these dispatches also carried letters to the lord James Stuart, now the principal leader of the Protestants, and natural brother to the queen. The letters were filled with reproaches and menaces, mixed with intreaties; and along with them the envoy delivered a verbal message, that the king his master was resolved rather to expend all the treasures of France than not to be revenged on the rebellious nobles who had disturbed the peace of Scotland. The lord James Stuart was not to be frightened by these men-

ces. He returned a cool and deliberate answer, apologizing for the Protestants, and vindicating them from the charge of rebellion; but at the same time intimating his full resolution of continuing to head the reformed as he had already done.

The letters of Francis and Mary were soon followed by 1000 French soldiers, with money and military stores; and the commander was immediately dispatched again to France, to solicit the assistance of as many more soldiers, with four ships of war, and 100 men-at-arms. But before he could set out, La Brosse, another French commander, arrived with 2000 infantry; and that the Congregation might be defeated not only by arms but in disputation, the same ship brought three doctors of the Sorbonne, to show the pernicious tendency of the new doctrines. Thus matters were pushed on beyond all hopes of reconciliation. The nation was universally alarmed on account of the introduction of French troops, to which they saw no end. The queen-regent attempted to quiet the minds of the public by a proclamation; but their fears increased the more. The Congregation assembled at Stirling, where they were joined by the earl of Arran, and soon after by his father the duke of Chatelherault. They next deliberated on the measures to be followed with the queen-regent; and the result of their consultations was, that an expostulatory letter should be addressed to her. This was accordingly done; but as the queen behaved with her usual duplicity, the nobles called the people to arms. Mutual manifestos were now published; and both parties prepared to decide the contest by the sword. The Congregation having seized Broughty castle, marched from thence to Edinburgh. The

queen-regent retired to Leith, which she had fortified and filled with French troops. Thither the nobles sent their last message to her, charging her with a design to overthrow the civil liberties of the kingdom. They requested her to command her Frenchmen and mercenaries to depart from Leith, and to make that place open and patent, not only to the inhabitants who had been dispossessed of their houses, but to all the inhabitants of Scotland. They declared, that her denial of this request should be considered by them as a proof of her intention to reduce the kingdom to slavery; in which case, they were determined to employ their utmost power to preserve its independency. Two days after this message, the queen-regent sent to them the lord Lyon, whom she enjoined to tell them, that she considered their demand not only as presumptuous, but as an encroachment on the royal authority; that it was an indignity to her to be dictated to by subjects; that Frenchmen were not to be treated as foreigners, being entitled to the same privileges with Scotsmen; and that she would neither disband her troops, nor command the town of Leith to be made open and patent. The lord Lyon then, in the name of the queen-regent, commanded the lords of the Congregation to depart from Edinburgh, and disperse themselves, under the pain of high treason. The Protestants, irritated by this answer, after some deliberation degraded the queen-regent; and to this purpose the nobility, barons, and burgesses, all agreed in subscribing an edict, which was sent to the principal cities in Scotland, and published in them.

The next step taken by the Congregation was to

Scotland.

551
French au-
xiliaries ar-
rive, which
alarms the
nation.

552
The nobles
send their
last message
to the
queen-
regent.

553
Receive an
unfavour-
able an-
swer.

554
They de-
grade her
from her
office, and
lay siege to
Leith.

Scotland. summon Leith to surrender; but meeting with defiance instead of submission, it was resolved to take the town by scalade. For this service ladders were framed in the church of St Giles; a business which, interrupting the preachers in the exercise of public worship, made them prognosticate misfortune and miscarriage to the Congregation. In the displeasure of the preachers, the common people found a source of complaint; and the emissaries of the queen-dowager acting with indefatigable industry to divide her adversaries, and to spread chagrin and dissatisfaction among them, discontent, animosity, and terror, came to prevail to a great degree. The duke of Chatellherault discouraged many by his example. Defection from the Protestants added strength to the queen-dowager. The most secret deliberations of the confederated lords were revealed to her. The soldiery were clamorous for pay; and it was very difficult to procure money to satisfy their claims. Attempts to soothe and appease them, discovering their consequence, engendered mutinies. They put to death a domestic of the earl of Argyle, who endeavoured to compose them to order: they insulted several persons of rank who discovered a solicitude to pacify them; and they even ventured to declare, that, for a proper reward, they were ready to suppress the reformation, and to re-establish the mass.

555
Divisions
take place
amongst
them.

556
They fall
into distress
and treat
with queen
Elizabeth.

557
English
subdye
taken by
the queen-
regent.

558
The Pro-
testants
defeated.

It was absolutely necessary to give satisfaction to the Protestant soldiers. The lords and gentlemen of the Congregation collected a considerable sum among them; but it was not equal to the present exigency. The avarice of many taught them to withhold what they could afford, and the poverty of others did not permit them to indulge their generosity. It was resolved, that each nobleman should surrender his silver-plate to be struck into money. By the address, however, of the queen-dowager, the officers of the mint were bribed to conceal, or to convey to a distance, the stamps and instruments of coinage. A gloomy despair gave disquiet to the Congregation, and threatened their ruin. Queen Elizabeth, with whose ministers the confederated lords maintained a correspondence at this time, had frequently promised them her assistance; but they could not now wait the event of a deputation to the court of England. In an extremity so pressing, they therefore applied for a sum of money to Sir Ralph Sadler and Sir James Croft, the governors of Berwick; and Cockburn of Ormiston, who was entrusted with this commission, obtained from them an aid of 4000 crowns. Traitors, however, in the councils of the Congregation, having informed the queen-dowager of his errand and expedition, the earl of Bothwell, by her order, intercepted him upon his return, discomfited his retinue, and made a prize of the English subsidy.

To rouse the spirit of the party, an attack was projected upon Leith, and some pieces of artillery were planted against it. But before any charge could be made, the French soldiers sallied out to give battle to the troops of the Congregation, possessed themselves of their cannon, and drove them back to Edinburgh. A report that the victors had entered this city with the fugitives, filled it with disorder and dismay. The earl of Argyle and his Highlanders hastened to recover the honour of the day, and harassed the French in their retreat. This petty conflict, while it elated the queen-

dowager, served to augment the despondence of the Protestants.

Vain of their prowess, the French made a new sally from Leith, with a view to intercept a supply of provisions and stores for the Congregation. The earl of Arran and the lord James Stuart advanced to attack them, and obliged them to retire. But pursuing them with too much heat, a fresh body of French troops made its appearance. It was prudent to retreat, but difficult. An obstinate resistance was made. It was the object of the French to cut off the soldiery of the Congregation from Edinburgh, and by these means to divide the strength of that station. The earl of Arran and the lord James Stuart had occasion for all their address and courage. Though they were able, however, to effect their escape, their loss was considerable, and the victory was manifestly on the side of their adversaries.

About this time William Maitland of Lethington, secretary to the queen-dowager, withdrew secretly from Leith, and joined himself to the confederated nobles. He had been disgusted with the jealousies of the French counsellors, and was exposed to danger from having embraced the doctrines of the reformed. His reception was cordial, and corresponded to the opinion entertained of his wisdom and experience. He was skilled in business, adorned with literature, and accustomed to reflection. But as yet it was not known, that his want of integrity was in proportion to the greatness of his talents.

The accession of this statesman to their party could not console the lords of the Congregation for the unpromising aspect of their affairs. The two discomfitures they had received sunk deeply into the minds of their followers. Those who affected prudence, retired privately from a cause which they accounted to be desperate; and the timorous fled with precipitation. The wailings and distrust of the brethren were melancholy and infectious; and by exciting the ridicule and scorn of the partisans of the queen-dowager, were augmented the more. A distress not to be comforted seemed to have invaded the Protestants; and the associated nobles consented to abandon the capital. A little after midnight, they retired from Edinburgh; and so great was the panic which prevailed, that they marched to Stirling without any stop or intermission.

John Knox, who had accompanied the Congregation to Stirling, anxious to recover their unanimity and courage, addressed them from the pulpit. He represented their misfortunes as the consequences of their sins; and intreating them to remember the goodness of their cause, assured them in the end of joy, honour, and victory. His popular eloquence corresponding to all their warmest wishes, diffused satisfaction and cheerfulness. They passed from despair to hope. A council was held, in which the confederated nobles determined to solicit, by a formal embassy, the aid of queen Elizabeth. Maitland of Lethington, and Robert Melvil, were chosen to negotiate this important transaction; and they received the fullest instructions concerning the state and difficulties of the Congregation, the tyrannical designs of the queen-dowager, and the danger which threatened England from the union of Scotland with France.

The queen of England having maturely considered the

559
The Pro-
testants
again de-
feated.

560
Maitland,
the queen-
dowager's
secretary, re-
volts to the Protes-
tants.

561
They retire
from Edin-
burgh to
Stirling.

562
John Knox
encourages
them.

Scotland. the case, determined to assist the reformers; whose leaders now dispersed themselves, and went to different parts of the kingdom, in order to employ their activity there for the common cause. The queen-dowager, imagining that the lords were fled, conceived great hopes of being able to crush the reformed at once. Her sanguine hopes, however, were soon checked, on receiving certain intelligence that queen Elizabeth was resolved to give them assistance. She now took the best measures possible, as circumstances stood; and determined to crush her enemies before they could receive any assistance from England. Her French troops took the road to Stirling, and wasted in their march all the grounds which belonged to the favourers of the reformation. After renewing their depredations at Stirling, they passed the bridge there; and proceeding along the side of the river, exercised their cruelties and oppressions in a district which had distinguished itself by an ardent zeal against popery. While the terror of their arms was thus diffusing itself, they resolved to seize the town and castle of St Andrew's, which they considered as an important military station, and as a convenient place of reception for the auxiliaries they expected from France.

563 Elizabeth determines to assist the reformers.
564 The French troops waste the estates of the reformed.
565 They are opposed with success by lord James Stuart.
But the lord James Stuart employed himself to interrupt their progress and retard their attempts; and it was his object at the same time, to keep the force of the Congregation entire, to hazard no action of importance, and to wait the approach of the English army. A small advantage was obtained by the French at Petticur; and they possessed themselves of Kinghorn. The lord James Stuart, with 500 horse and 100 foot, entered Dyfart. With this inconsiderable strength he proposed to act against an army of 4000 men. His admirable skill in military affairs, and his heroic courage, were eminently displayed. During 20 days he prevented the march of the French to St Andrew's, intercepting their provisions, harassing them with skirmishes, and intimidating them by the address and the boldness of his stratagems.

566 Arrival of the English fleet.
567 The French general dies.
Monsieur d'Oysel, enraged and ashamed to be disconcerted and opposed by a body of men so disproportioned to his army, exerted himself with vigour. The lord James Stuart was obliged to retire. Dyfart and Wemyss were given to the French troops to be pillaged; and when d'Oysel was in full march to St Andrew's, he discovered a powerful fleet bearing up the frith. It was concluded, that the supplies expected from France were arrived. Guns were fired by his soldiers, and their joy was indulged in all its extravagance. But this fleet having taken the vessels which contained their provisions, and the ordnance with which they intended to improve the fortifications of the castle at St Andrew's, a period was put to their rejoicings. Certain news was brought, that the fleet they observed was the navy of England, which had come to support the Congregation. A consternation, heightened by the giddiness of their preceding transports, invaded them. Monsieur d'Oysel perceived now the value and merit of the service which had been performed by the lord James Stuart; and thinking no more of St Andrew's and conquest, fled to Stirling, in his way to Leith, from which he dreaded to be intercepted; but he reached that important station after a march of three days.

A formal treaty was now concluded between the lords of the Congregation and queen Elizabeth; and in the mean time the queen-dowager was disappointed in her expectations from France. The violent administration of the house of Guise had involved that nation in troubles and distress. Its credit was greatly sunk, and its treasury was nearly exhausted. Persecutions, and the spirit of Calvinism, produced commotions and conspiracies; and amidst domestic and dangerous intrigues and struggles, Scotland failed to engage that particular distinction which had been promised to its affairs. It was not, however, neglected altogether. The count De Martigues had arrived at Leith with 1000 foot and a few horse. The marquis D'Elbeuf had embarked for it with another body of soldiers; but, after losing several ships in a furious tempest, was obliged to return to the haven from which he had failed.

568 Treaty between Elizabeth and the Scots Protestants.
569 The queen-dowager disappointed in her expectations from France.
In this sad reverse of fortune many forsook the queen-dowager. It was now understood that the English army was upon its march to Scotland. The Scottish lords who had affected a neutrality, meditated an union with the Protestants. The earl of Huntley gave a solemn assurance that he would join them. Proclamations were issued throughout the kingdom, calling upon the subjects of Scotland to assemble in arms at Linlithgow, to re-establish their ancient freedom, and to assist in the utter expulsion of the French soldiery.

The English fleet, meanwhile, under Winter the vice-admiral, had taken and destroyed several ships, had landed some troops upon Inchkeith, and discomfited a body of French mercenaries. Upon the foundation of these acts of hostility, the princes of Lorraine dispatched the chevalier de Seure to queen Elizabeth, to make representations against this breach of the peace, and to urge the recal of her ships. This ambassador affected likewise to negotiate concerning the evacuation of Scotland by the French troops, and to propose methods by which the king of France might quarter the arms of England without doing a prejudice to queen Elizabeth. But to prevent the execution of vigorous resolutions against the queen-dowager, and to gain time, were the only objects he had in view. With familiar intentions, John Monluc bishop of Valence, a man of greater address and ability, and equally devoted to the house of Guise, was also sent at this time to the court of England. Queen Elizabeth, however, and her ministers, were too wise to be amused by artifice and dexterity.

570 She is deserted by great numbers of her subjects.
571 The princes of Lorraine attempt to negotiate with queen Elizabeth in vain.
572 An English army enters Scotland.
The lord Grey entered Scotland with an army of 1200 horse and 6000 foot; and the lord Scroop, Sir James Croft, Sir Henry Percy, and Sir Francis Lake commanded under him. By an inclement policy, the queen-dowager had already wasted all the country around the capital. But the desolation she had made, while it was ruinous to the Scottish peasants, affected not the army of England. The leaders of the Congregation did not want penetration and foresight, and had provided themselves against this difficulty. The duke of Chatelherault, the earls of Argyle, Glencairn, and Menteith, the lord James Stuart, and the lords Ruthven, Boyd, and Ochiltree, with a numerous and formidable force, joined the English commander at Preston.

Struck with the sad condition of her affairs, despairing of a timely and proper succour from France, and reminded by sickness of her mortality, the queen-dowager retired

Scotland.
573
The queen-dowager retires to Edinburgh castle.

574
The Protestants invite her to an accommodation.

retired from Leith to the castle of Edinburgh, and put herself under the protection of the lord Erskine. At the period when she was appointed to the regency, the lord Erskine had received from the three estates the charge of this important fortress, with the injunction to hold it till he should know their farther orders; and giving way to the solicitations of neither faction, he had kept it with fidelity. By admitting the queen-dowager, he yielded to sentiments of honour and humanity, and did not mean to depart from his duty. A few only of her domestics accompanied her, with the archbishop of St Andrew's, the bishop of Dunkeld, and the earl Marischal.

The confederated nobles now assembled at Dalkeith to hold a council; and conforming to those maxims of prudence and equity which, upon the eve of hostilities, had been formerly exercised by them, they invited the queen-dowager to an amicable conclusion of the present troubles. In a letter which they wrote to her, they called to her remembrance the frequent manifestos and messages in which they had pressed her to dismiss the French soldiery, who had so long oppressed the lower ranks of the people, and who threatened to reduce the kingdom itself to servitude. The aversion, however, with which she had constantly received their suit and prayers, was so great, that they had given way to a strong necessity, and had intreated the assistance of the queen of England to expel these strangers by the force of arms. But though they had obtained the powerful protection of this princess, they were yet animated with a becoming respect for the mother of their sovereign; and, abhorring to stain the ground with Christian blood, were disposed once more to solicit the dismissal of these mercenaries, with their officers and captains. And that no just objection might remain against the grant of this their last request, they assured her, that a safe passage by land, to the ports of England, should be allowed to the French; or that, if they judged it more agreeable, the navy of queen Elizabeth should transport them to their own country. If these proposals should be rejected, they appealed and protested to God and to mankind, that it should be understood and believed, that no motive of malice, or hatred, or wickedness of any kind, had induced them to employ the fatal expedient of arms and battles; but that they had been compelled to this disagreeable and distressful remedy, for the preservation of their commonwealth, their religion, their persons, their estates, and their posterity. They begged her to weigh the equity of their petition, to consider the inconveniences of war, and to think of the rest and quiet which were necessary to relieve the afflictions of her daughter's kingdom; and they besought her to embalm her own memory, by an immortal deed of wisdom, humanity, and justice.

575
She still behaves with insincerity.

To give authority and weight to the letter of the associated lords, the lord Grey directed Sir George Howard and Sir James Croft to wait upon the queen-dowager, and to stipulate the peaceable departure of the English troops, upon the condition that the French mercenaries were immediately dismissed from her service, and prohibited from residing in Scotland. Returning no direct answer to the applications made to her, she desired time to deliberate upon the resolution which it became her to adopt. This equivocal behaviour corre-

sponded with the spirit of intrigue which had uniformly distinguished the queen-dowager; and it is probable, that her engagements with France did not permit her to be open and explicit.

The combined armies marched towards Leith. A body of the French, posted upon a rising ground called *Hawk-hill*, disputed their progress. During five hours the conflict was maintained with obstinate valour. At length the Scottish horsemen charged the French with a fury which they were unable to resist. They fled to Leith with precipitation; and might have been cut off from it altogether, if the English cavalry had exerted themselves. Three hundred of the French soldiers perished in this action, and a few combatants only fell on the side of the Congregation.

Leith was invested. The pavilions and tents of the English and Scottish nobility were planted at Restalrig, and around it. Trenches were cast; and the ordnance from the town annoying the combined armies, a mount was raised, upon which eight cannons were erected. A continued fire from these, against St Anthony's tower in South Leith, being kept up and managed with skill, the walls of this fabric were shaken, and the French found it necessary to dismount their artillery. Negligent from security, and apprehensive of no attack, the English and Scottish officers occupied themselves in amusements, and permitted a relaxation of military discipline. The French, informed of this supineness and levity, made a sally from Leith. While some of the captains were diverting themselves at Edinburgh, and the soldiery were engaged at dice and cards, they entered the trenches unobserved, and, pushing their advantage, put 600 men to the sword. After this slaughter, the Protestants were more attentive to their affairs. Mounts were built at proper distances, which, being fortified with ordnance, served as places of retreat and defence in the event of sudden incursions; and thus they continued the blockade in a more effectual manner.

The army under the marquis D'Elbeuf, promised so often to the queen-regent, was in vain expected by her; but she received, at this time, supplies in money and military stores; and Monluc bishop of Valence, though defeated in dexterity by Elizabeth and her ministers, had arrived in Scotland to try anew the arts of delay and negotiation. Conferences were held by him with the queen-dowager, with the English commanders, and with the confederated nobles; but no contract or agreement could be concluded. His credentials neither extended to the demolition of Leith, nor to the recall of the French mercenaries: and though he obtained powers from his court to consent to the former of these measures, they were yet burdened with conditions which were disgraceful to the Congregation; who, in the present prosperous state of their fortunes, were not disposed to give up any of the objects for which they had struggled so long, and to the attainment of which they now looked forward with a settled hope and expectation.

Though the grave and measured orations of Monluc could not overpower the plain and stubborn sense of the Congregation, yet as he affected to give them admonitions and warnings, and even ventured to insult them with menaces, they appear to have conceived a high indignation against him. Under this impulse, and that

Scotland.
576
The French defeated by the Protestant allies.

577
Who lay siege to Leith.

578
A party of them cut off.

579
Fruitless negotiation with England.

⁵⁸⁰
Scotland. that in so advanced a stage of their affairs, they might exhibit the determined firmness of their resolutions, and bind to them by an indissoluble tie the earl of Huntley and the other persons who had joined them in consequence of the English alliance, they thought of the assurance and stability of a *new league and covenant*, more solemn, expressive, and resolute, than any which they had yet entered into and subscribed.

The fourth covenant.

The nobles, barons, and inferior persons, who were parties to this bond and association, bound themselves in the presence of Almighty God, as a society, and as individuals, to advance and set forward the reformation of religion, and to procure, by every possible means, the true preaching of the gospel, with the proper administration of the sacraments, and the other ordinances in connection with it. Deeply affected, at the same time, with the misconduct of the French statesmen, who had been promoted to high offices; with the oppressions of the French mercenaries, whom the queen-dowager kept up and maintained under the colour of authority; with the tyranny of their captains; and with the manifest danger of conquest to which the country was exposed, by different fortifications upon the sea-coast, and by other dangerous innovations; they promised and engaged, generally and individually, to join with the queen of England's army, and to concur in an honest, plain, and unreserved resolution to expel all foreigners from the realm, as oppressors of public liberty; that, by recovering the ancient rights, privileges, and freedom of their nation, they might live for the future under the due obedience of their king and queen, be ruled by the laws and customs of the country, and by officers and statesmen born and educated among them. It was likewise contracted and agreed by the subscribers to this bond and covenant, that no private intelligence by writing or message, or communication of any kind, should be kept up with their adversaries; and that all persons who resisted the godly enterprise in which they were united, should be regarded as their enemies, and reduced to subjection and obedience.

⁵⁸¹
The queen-dowager gives herself up to despair.

When the strong and fervid sentiment and expression of this new association were communicated to the queen-dowager, she resigned herself to sorrow. Her mind, inclined to despondence by the increase of her malady, felt the more intensely the cruel distractions and disquiets into which the kingdom had been driven by the ambition of France, her own doating affection for the princes of Lorraine, and the vain prognostications of flatterers and courtiers. In the agony of passion, she besought the malediction and curse of God to alight upon all those who had counselled her to persecute the preachers, and to refuse the petitions of the most honourable portion of her subjects.

In the mean time the siege of Leith was prosecuted. But the strength of the garrison amounting to more than 4000 soldiers, the operations of the besiegers were slow and languid. An accidental fire in the town, which destroyed many houses and a great part of the public granary, afforded them an opportunity of playing their artillery with some advantage; and a few days after they made a general assault. But the scaling-ladders which were applied to the walls being too short, and Sir James Croft, who had been gained to the queen-dowager, having acted a treacherous part, the attempt

⁵⁸²
The Protestants make an unsuccessful attack on Leith.

failed of success, and 1000 men were destroyed. The combined armies, however, did not lose their resolution or their hopes. The English and Scots animated the constancy of one another; and in the ratification of the treaty of Berwick, which was now made, a new source of cordiality opened itself. Letters also had come from the duke of Norfolk, promising a powerful reinforcement, giving the expectation of his taking upon him the command of the troops in person, and ordering his pavilion to be erected in the camp. Leith began to feel the misery of famine, and the French to give themselves to despair. The besiegers abounded in every thing; and the arrival of 2000 men, the expected reinforcement from England, gave them the most decisive superiority over their adversaries. Frequent sallies were made by the garrison, and they were always unsuccessful. Discouraged by defeats, depressed with the want of provisions, and languishing under the negligence of France, they were ready to submit themselves to the mercy of the Congregation.

⁵⁸³
A reinforcement arrives from England.

Amidst this distress the queen-dowager, wasted with a lingering distemper and with grief, expired in the castle of Edinburgh. A few days before her death, she invited to her the duke of Chatelherault, the lord James Stuart, and the earls of Argyle, Glencairn, and Marischal, to bid them a last adieu. She expressed to them her sorrow for the troubles of Scotland, and made it her earnest suit, that they would consult their constitutional liberties, by dismissing the French and English from their country; and that they would preserve a dutiful obedience to the queen their sovereign. She professed an unlimited forgiveness of all the injuries which had been done to her; and entreated their pardon for the offences she had committed against them. In token of her kindness and charity, she then embraced them by turns; and, while the tear started in her eye, presented to them a cheerful and smiling aspect. After this interview, the short portion of life which remained to her was dedicated to religion; and that she might allure the Congregation to be compassionate to her Popish subjects and her French adherents, she flattered them, by calling John Willocks, one of the most popular of their preachers, to assist and comfort her by his exhortations and prayers. He made long discourses to her about the abominations of the mass; but she appears to have died in the communion of the Romish church; and her body being transported to France, was deposited in the monastery of St Peter, at Rheims, in Champagne, where her sister Renée was an abbess.

⁵⁸⁴
Death of the queen-regent.

The death of the queen-dowager, at a period so critical, broke altogether the spirit of the French troops. They were blocked up so completely, that it was almost impossible for any supplies to reach them either by sea or land; and France had delayed so long to fulfil its magnificent promises, that it was no longer in a capacity to take any steps towards their accomplishment. Its internal distress and disquiets were multiplying. The nobility, impoverished by wars, were courting the rewards of service, and struggling in hostility. The clergy were avaricious, ignorant, and vindictive. The populace, knowing no trade but arms, offered their swords to the factious. Francis II. the husband of Mary, was without dignity or understanding. Catharine de Medicis his mother was full of artifice and falsehood. Insurrections were dreaded in every province.

⁵⁸⁵
The French troops submit.

Scotland. vince. The house of Guise was encompassed with difficulties, and trembling with apprehensions, so that they could not think of persisting in their views of distant conquests. It was necessary that they should abandon for a time all the proud projects they had formed for the extension of the French monarchy. It was chiefly in the exemption from foreign wars that they could hope to support their own greatness, and apply a remedy to the domestic disturbances of France.

386

Francis and Mary enter into a negotiation with Elizabeth.

It appeared to Francis and Mary, that they could not treat in a direct method with the Congregation, whom they affected to consider as rebellious subjects, without derogating from their royal dignity. In negotiating a peace, they therefore addressed themselves to queen Elizabeth. It was by her offices and interference that they projected a reconciliation with the confederated lords, and that they meant to extinguish the animosities which, with so much violence, had agitated the Scottish nation. They granted their commission to John Monluc bishop of Valence, Nicholas Pelleve bishop of Amiens, Jacques de la Brosse, Henry Clentin sieur d'Oysel, and Charles de la Rochefaucault sieur de Randan; authorising them in a body, or by two of their number, to enter into accords and agreements with the queen of England. The English commissioners were Sir William Cecil principal secretary of state, Nicolas Wotton dean of Canterbury and York, Sir Ralph Sadler, Sir Henry Percy, and Sir Peter Crew; and the powers of treaty were to be exercised by them all in conjunction, or by four, three, or two of them.

387

Promise an indemnity to the Protestants.

The plenipotentiaries of France, though empowered only to treat with England, were yet, by a separate commission, entrusted to assure the Congregation, that, notwithstanding the heinous guilt incurred by them, Francis and Mary were inclined to receive them into favour, upon their repentance and return to obedience; and to abstain for ever from all inquiry into their conduct. They had full authority, at the same time, by this new deed, to hear, in conjunction with the commissioners of Elizabeth, the complaints of the Congregation, and to grant, with their consent, the relief which appeared to them to be the most proper and salutary.

The nobility and people of Scotland, choosing for their representatives the lord James Stuart, the lord Ruthven, and Maitland of Lethington, expressed their willingness to concur in reasonable measures for the re-establishment of the public union and tranquillity. By the mode of a formal petition, they enumerated their grievances, laid claim to a redress of them, and besought an uniform protection to their constitution and laws. To

388

And at last grant their petition.

this petition the intercession of queen Elizabeth effected the friendly attention of Francis and Mary; and upon a foundation concerted with so much propriety, Monluc and Randan, Cecil and Wotton, the acting plenipotentiaries of England and France, drew up and authenticated the celebrated deed of relief and concession which does so much honour to the spirit, perseverance, and magnanimity of the Scottish nation.

389

Nature of their treaty with the Protestants.

By this accord and agreement, Francis and Mary stipulated and consented, that no French soldiers and no foreign troops should ever be introduced into Scotland without the counsel and advice of the three estates. They concurred in the opinion, that the French mercenaries should be sent back into France, and that the

fortifications of Leith should be demolished. They agreed that commissioners should be appointed to visit Dunbar, and to point out the works there which ought to be destroyed; and they bound and engaged themselves to build no new fortress or place of strength within the kingdom, and to repair no old one, without a parliamentary authority and sanction. They consented to extinguish all debts which had been contracted for the maintenance of the French and Scotch soldiery in their service. They appointed the estates of the realm to hold a parliament for the discussion of affairs of state; and they obliged themselves to consider the acts of this assembly as valid and effectual in every respect. They confirmed the ancient law of the country, which prohibited the princes of Scotland from making peace and war without the advice of the three estates. It was accorded and agreed by them, that the three estates, in concurrence with the queen, should elect a council for the administration of affairs during her majesty's absence. They became bound to employ the natives of Scotland in the management of justice both civil and criminal, in the offices of chancellor, keeper of the seals, treasurer, comptroller, and in other stations of a similar nature; and to abstain from the promotion of all foreigners to places of trust and honour, and from investing any clergyman in the charge of affairs of the revenue. They determined to establish an act of oblivion, and to forget and bury for ever the memory of all the late transactions of war and offence. It was concluded by them, that a general peace and reconciliation should take place among all parties. They expressed their determination, that no pretence should be assumed by them, from the late contentions, to deprive any of their subjects of their estates or offices. And they referred the reparation which might be proper to compensate the injuries that had been sustained by bishops and ecclesiastics, to the judgment of the three estates in parliament.

Upon the subject of the reformation, the plenipotentiaries of England and France did not choose to deliberate and decide, although articles with regard to it had been presented to them by the nobles and the people. They referred this delicate topic to the ensuing meeting of the parliament; and the leaders of the Congregation engaged, that deputies from the three estates should repair to the king and queen, to know their intention concerning matters of such high importance.

After having granted these concessions to the nobility and the people of Scotland, upon the part of their respective courts, Monluc and Randan, Cecil and Wotton, concluded another deed of treaty and agreement. By this convention it was determined, that the English and French troops should depart out of Scotland; that all warlike preparations should cease; that the fort of Eymouth should be razed to the ground, in terms of

the treaty of Cambray; that Francis and Mary should abstain from bearing the title and arms of England or Ireland; that it should be considered, whether a farther compensation should be made to Elizabeth for the injuries committed against her; and that the king and queen of Scots should be fully and sincerely reconciled to the nobility and the people of their kingdom. The interests of England and France were the particular objects of this agreement. But though the concessions to the Protestants were not inserted in it at full length, an

Scotland

590
Articles relating to the French troops.

expressive

Scotland. expressive reference was made to them; and they received a confirmation in terms which could not be misunderstood or controverted. This deed recorded the clemency of Francis and Mary to their subjects of Scotland, the extreme willingness of the nobility and the people to return to their duty and allegiance, the representation they had offered of their grievances, and the request of queen Elizabeth that redress should be afforded to them; and it appealed to the consequent concessions which had been stipulated to their advantage.

By these important negotiations, the Protestants, while they humbled France, flattered queen Elizabeth; and while they acquired a power to act in the establishment of the reformation, restored its civil constitution to Scotland. The exclusion of foreigners from offices of state, the limitation of the Scottish princes with regard to peace and war, the advancement of the three estates to their ancient consequence, and the act of oblivion of all offences, were acquisitions most extensively great and useful; and, while they gave the fullest security to the reformed, gratified their most sanguine expectations.

591
Peace proclaimed.

The peace, so fortunately concluded, was immediately proclaimed. The French mercenaries embarked for their own country, and the English army took the road to Berwick. Amidst events so joyful, the preachers exhorted the confederated nobles to command the solemnity of a thanksgiving. It was ordered accordingly; and after its celebration, the commissioners of the boroughs, with several of the nobility, and the tenants *in capite*, were appointed to choose and depute ministers to preach the gospel in the principal towns throughout the kingdom. John Knox was called to discharge the pastoral functions at Edinburgh, Christopher Goodman at St Andrew's, Adam Heriot at Aberdeen, John Row at Perth, Paul Methven at Jedburgh, William Christison at Dundee, David Ferguson at Dunfermline, and David Lindsey at Leith. That the business of the church, at the same time, might be managed with propriety, superintendants were elected to preside over the ecclesiastical affairs of particular provinces and districts. Mr John Spotswood was named the superintendant for the division of Lothian, Mr John Willocks for that of Glasgow, Mr John Winram for that of Fife, Mr John Erskine of Dun for that of Angus and Merns, and Mr John Carlewel for that of Argyre and the Isles. This inconsiderable number of ministers and superintendants gave a beginning to the reformed church of Scotland.

593
The parliament meets.

Amidst the triumph and exultation of the Protestants, the meeting of the parliament approached. All persons who had a title from law, or from ancient custom, to attend the great council of the nation, were called to assemble there. While there was a full convention of the greater barons and the prelates, the inferior tenants *in capite*, or the lesser barons, upon an occasion so great, instead of appearing by representation, came in crowds to give personally their assistance and votes; and all the commissioners for the boroughs, without exception, presented themselves.

It was objected to this parliament when it was assembled, that it could not be valid, since Francis and Mary were not present, and had not empowered any person to represent them. But by the terms of the late concessions to the nobility and the people, they had in effect dispensed with this formality; and the objection, after having been agitated with heat for some days, was rejected by a majority of voices. The lords of the articles were then chosen; and as the Protestant party were superior to the Popish faction, they were careful, in electing the members of this committee, to favour all those who were disposed to forward the work of the reformation. The first object which the lords of the articles held out to the parliament was the supplication of the nobility, gentry, and all the other persons who professed the new doctrines. It required, that the Romish church should be condemned and abolished. It reprobated the tenet of transubstantiation, the merit of works, papistical indulgences, purgatory, pilgrimages, and prayers to departed saints; and considering them as pestilent errors, and as fatal to salvation, it demanded, that all those who should teach and maintain them should be exposed to correction and punishment. It demanded, that a remedy should be applied against the profanation of the holy sacraments by the Roman Catholics, and that the ancient discipline of the church should be restored. In fine, it insisted, that the supremacy and authority of the pope should be abolished; and that the patrimony of the church should be employed in supporting the reformed ministry, in the provision of schools, and in the maintenance of the poor.

This supplication of the Protestants was received in parliament with marks of the greatest deference and respect. The popish doctrines it censured, and the strong language it employed, excited no dispute or altercation. The nobility, however, and the lay members, did not think it expedient that the patrimony of the church, in all its extent, should be allotted to the reformed ministry, and the support of schools and the poor. Avoiding, therefore, any explicit scrutiny into this point, the parliament gave it in charge to the ministers and the leading men of the reformation, to draw up, under distinct heads, the substance and sense of those doctrines which ought to be established over the kingdom. Within four days this important business was accomplished. The writing or instrument to which the reformed committed their opinions was termed, "The Confession of Faith, professed and believed by the Protestants within the realm of Scotland (q)." It was read first to the lords of the articles. It was then read to the parliament; and the prelates of the Romish church were commanded, in the name of God, to make publicly their objections to the doctrines it proposed. They preserved a profound silence. A new diet was appointed for concluding the transaction. The articles of the Confession were again read over in their order, and the votes of the parliament were called. Of the temporal nobility, three only refused to bestow upon it their authority. The earl of Athol, and the lords Somerville and Bothwell, protested,

594
Supplication of the Protestants.

595
A Confession of Faith drawn up.

(q) It is given at full length in Knox, in the collection of confessions of faith, vol. 2. and in the statute book, par. 1567.

Scotland. ed, that "they would believe as their fathers had done before them." The bishops and the estate ecclesiastical, from a consciousness of the weakness of popery, seemed to have lost all power of speech. No dissent, no vote, was given by them. "It is long (said the earl Marischal), since I entertained a jealousy of the Romish faith, and an affection to the reformed doctrines. But this day has afforded me the completest conviction of the falsehood of the one, and the truth of the other. The bishops, who do not conceive themselves to be deficient in learning, and whose zeal for the maintenance of the hierarchy cannot be doubted, have abandoned their religion, and their interest in it, as objects which admit of no defence or justification." All the other constituent members of this great council were zealous for the establishment of the reformation, and affirmed the propriety of its doctrines. Thus the high court of parliament, with great deliberation and solemnity, examined, voted, and ratified the confession of the reformed faith.

596
Abolition
of the mass.

A few days after the establishment of the Confession of Faith, the parliament passed an act against the mass and the exercise of the Romish worship. And it scrupled not to ordain, that all persons saying or hearing mass should, for the first offence, be exposed to the confiscation of their estates, and to a corporal chastisement, at the discretion of the magistrate; that for the second offence, they should be banished out of the kingdom; and that for the third offence they should incur and suffer the pains of death. This fierceness, it is to be acknowledged, did not suit the generosity of victory; and while an excuse is sought for it in the perfidiousness of the Romish priesthood, it escapes not the observation of the most superficial historians, that these severities were exactly those of which the Protestants had complained so loudly, and with so much justice. By another ordination, the parliament, after having declared, that the pope, or bishop of Rome, had inflicted a deep wound and a humiliating injury upon the sovereignty and government of Scotland, by his frequent interferences and claims of power, commanded and decreed, that, for the future, his jurisdiction and authority should be dead and extinct; and that all persons maintaining the smallest connection with him, or with his sect, should be liable to the loss of honour and offices, proscription, and banishment.

597
Persecuting
spirit of the
Protestants.

These memorable and decisive statutes produced the overthrow of the Romish religion. To obtain to these proceedings, and to its other ordinances, the approbation of Francis and Mary was an object of the greatest anxiety, and of infinite moment to the three estates. Sir James Sandilands lord St John was therefore appointed to go to France, and to express to the king and queen the affection and allegiance of their subjects, to explain what had been done in consequence of the late concessions and treaty, and to solicit their royal ratification of the transactions of the parliament. The spirited behaviour of the Congregation had, however, exceeded all the expectations of the princes of Lorraine; and the business of the embassy, and the ambassador himself, though a man of character and probity, were treated not only with ridicule, but with insult and contumely. He returned accordingly without any answer to his commission. Instead of submitting the heads

598
Francis and
Mary refuse
to confirm
the acts of
this parliament.

Scotland. and topics of a reformation to Francis and Mary, by a petition or a narrative, the parliament had voted them into laws; and from this informality the validity of its proceedings has been suspected. But it is observable of the Protestants, that they had not concealed their views with regard to religion and the abolition of Popery; that in the grant of redress and concession, and in the deed of treaty, no actual prohibition was made to bar the establishment of the reformation; that a general authority was given to the parliament to decide in affairs of state; and that Francis and Mary were solemnly bound to authenticate its transactions. Though a formality was invaded, the spirit of the treaties was yet respected and maintained. The nation, of consequence, imputed the conduct of Francis and Mary to political reasons suggested by the princes of Lorraine, and to the artifices of the Popish clergy; and as Elizabeth did not refuse, upon her part, the ratification of the agreements, and solicited and pressed the French court in vain to adopt the same measure, a strength and force were thence communicated to this conclusion.

When the three estates dispatched Sir James Sandilands to France, they instructed the earls of Morton and Glencairn, with Maitland of Lethington, to repair to the court of England. By these ambassadors they presented to Elizabeth their sincere and respectful thanks, for the attention shown by her to Scotland, in her late most important services. And while they solicited the continuance of her favour and protection, intreated, in an earnest manner, that her majesty, for the establishment of a perpetual peace and amity, would be pleased to take in marriage the earl of Arran, the next heir after his father to the Scottish monarchy. The queen made new and fervent protestations of her regard and attachment; and gave the promise of her warmest aid when it should be necessary, in their just defence, upon any future occasion. She spoke in obliging terms of the earl of Arran; but as she found in herself no present disposition to marriage, she desired that he might consult his happiness in another alliance. She expressed a favourable opinion of the Scottish nobility; and as a demonstration of her affection and esteem, she took the liberty to remind them of the practices which had been employed to overturn their independency, and begged them to consider the unanimity and concord of their order as a necessary guard against the ambition and the artifice of the enemies of their nation.

The success of the Congregation, though great and illustrious, was not yet completely decisive. The refusal of Francis and Mary to ratify their proceedings opened a source of bitterness and inquietude. The Popish party, though humbled, was not annihilated. Under the royal protection it would soon be formidable. Political considerations might arise, not only to cool the amity of England, but even to provoke its resentment. And France, though it could now transport no army against Scotland, might soon be able to adopt that expedient. Cruel distractions and severe calamities were still to be dreaded. In the narrowness of their own resources they could find no solid and permanent security against the rage and weight of domestic faction, and the strenuous exertions of an extensive kingdom. All their fair achievements might

Scotland

599
Death of
Francis II.

be blasted and overthrown. Popery might again build up her towers, and a sanguinary domination destroy alike their religious and civil liberties.

While the anguish of melancholy apprehensions repressed the triumph of the Congregation, the event which could operate most to their interests was announced to them. This event was the death of Francis II. The tie which knit Scotland to France was thus broken. A new scene of politics displays itself. Catharine de Medicis, the queen-mother, ruled Charles IX. and was the personal enemy of the queen of Scots. The power and the credit which Mary had lent to her uncles, and the frequent and humiliating disappointments which the queen-mother had suffered from her influence over Francis, were now repaid with a studied indifference and neglect. In the full perfection of her charms, with two crowns upon her head, and looking towards a third, she felt herself to be without grandeur and without consequence. Leaving a court where she had experienced all the enjoyments of which humanity is susceptible, she retired to Rheims, to indulge her sorrow.

In the humiliation of their queen, and in the change produced in the councils of France, the Protestants of Scotland found every possible encouragement to proceed with vigour in the full establishment of the reformed doctrines. After the dissolving of the parliament, they turned their thoughts and attention to the plan of policy which might suit best the tenets and religion for which they had contended. The three estates, amidst their other transactions, had granted a commission to Mr John Winram, Mr John Spottiswood, John Willocks, Mr John Douglas, Mr John Row, and John Knox, to frame and model a scheme or platform of ecclesiastical government. They were not long in complying with an order so agreeable to them, and composed what is termed the *First Book of Discipline*; in which they explained the uniformity and method which ought to be preserved concerning doctrine, the administration of the sacraments, the election and provision of ministers, and the policy of the church.

A convention of the estates gave its sanction to the Presbyterian scheme of government. But while the Book of Discipline sketched out a policy beautiful for its simplicity, yet it required that the patrimony and the rich possessions of the ancient church should be allotted to the new establishment. The reformers, however, so successful in the doctrines and the policy they had proposed, were here very unfortunate. This convention of the estates did not pay a more respectful regard to this proposal than the celebrated parliament had done, which demolished the mass and the jurisdiction of the see of Rome. They affected to consider it as no better than a dream. The expression "a devout imagination" was applied to it in mockery; and it was not till after long and painful struggles, that the new establishment was able to procure to itself a becoming and necessary provision and support. The Romish clergy were strenuous to continue in their possessions, and to profit by them; and the nobles and the laity having seized upon great proportions of the property of the church, were no less anxious to retain the acquisitions they had made.

The aversion entertained from bestowing riches upon

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the Presbyterian establishment, encouraged the ardour which prevailed for advancing all the other views and interests of the reformed. And this end was also promoted in no inconsiderable degree by the insidious policy of Catharine de Medicis. She was willing to increase and to foster all the difficulties and dangers in the situation of the queen of Scots and her subjects. Upon this account she had engaged Charles IX. to dispatch Monsieur Noailles to the Scotch parliament, to urge it in strong terms to renew the ancient league between the two kingdoms, to dissolve the alliance with England, and to re-establish over Scotland the Popish doctrines and the Popish clergy. A new meeting of the estates was assembled, which considered these strange requisitions, and treated them with the indignation they merited. Monsieur Noailles was instructed to inform his sovereign, that France having acted with cruelty and perfidiously towards the Scots, by attacking their independency and liberties under the cover and pretence of amity and marriage, did not deserve to know them any longer as an ally; that principles of justice, a love of probity, and a high sense of gratitude, did not permit the Scottish parliament to break the confederacy with England, which had generously protected their country against the tyrannical views of the French court, and the treacherous machinations of the house of Guise; and that they were never to acknowledge the Popish clergy to be a distinct order of men, or the legal possessors of the patrimony of the church; since, having abolished the power of the pope, and renounced his doctrines, they could bestow no favour or countenance upon his vassals and servants.

To this council of the estates a new supplication was presented by the Protestants. They departed from the high claim which they had made for the riches and patrimony of the Popish church; and it was only requested by them, that a reasonable or decent provision should be allotted to the true preachers of the gospel. This application, however, no less than their former exorbitant demand, was treated with neglect and indifference. But amidst the anxiety manifested by the nobles and the tenants of the crown to hold the Presbyterian clergy in subjection and in poverty, they discovered the warmest zeal for the extension and continuance of the reformed opinions. For in this supplication of the Protestants, an ardent desire being intimated and urged, that all the monuments of idolatry which remained should be utterly destroyed, the fullest and most unbounded approbation was given to it. An act accordingly was passed, which commanded that every abbey-church, every cloister, and every memorial whatsoever of Popery, should be finally overthrown and demolished: and the care of this cruel, but popular employment, was committed to those persons who were most remarkable for their keenness and ardour in the work of the reformation. Its execution in the western counties was given in charge to the earls of Arran, Argyle, and Glencairn; the lord James Stuart attended to it in the more northern districts; and in the inland divisions of the country, it was intrusted to the barons in whom the Congregation had the greatest confidence. A dreadful devastation ensued. The populace, armed with authority, spread their ravages over the kingdom. It was deemed an execrable lenity to spare any fabric or place where idolatry had been exercised.

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cised. The churches and religious houses were everywhere defaced, or pulled to the ground; and their furniture, utensils, and decorations, became the prizes and the property of the invader. Even the sepulchres of the dead were ransacked and violated. The libraries of the ecclesiastics, and the registers kept by them of their own transactions and of civil affairs, were gathered into heaps, and committed to the flames. Religious antipathy, the sanction of law, the exhortation of the clergy, the hope of spoil, and, above all, the ardour to put the last hand to the reformation, concurred to drive the rage of the people to its wildest fury; and, in the midst of havock and calamity, the new establishment surveyed its importance and its power.

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Mary solicited to return to her own country.

The death of Francis II. having left his queen, Mary, in a very disagreeable situation while she remained in France, it now became necessary for her to think on returning to her own country. To this she was solicited both by the Protestants and Papists; the former, that they might gain her over to their party; and the latter, hoping that, as Mary was of their own persuasion, Popery might once more be established in Scotland. For this deputation, the Protestants chose lord James Stuart, natural brother to the queen; and the Papists, John Lesly, official and vicar-general of the diocese of Aberdeen. The latter got the start of the Protestant ambassador, and thus had the opportunity of first delivering his message. He advised her strongly to beware of the lord James Stuart, whom he represented as a man of unbounded ambition, who had espoused the Protestant cause for no other reason than that he might advance himself to the highest employments in the state; nay, that he had already fixed his mind on the crown itself. For these reasons he advised that the lord James Stuart should be confined in France till the government of Scotland could be completely established. But if the queen was averse to this measure, he advised her to land in some of the northern districts of Scotland, where her friends were most numerous; in which case an army of 20,000 men would accompany her to Edinburgh, to restore the Popish religion, and to overawe her enemies. The next day the lord James Stuart waited upon her, and gave an advice very different from that of Lesly. The surest method of preventing insurrections, he said, was the establishment of the Protestant religion; that a standing army and foreign troops would certainly lose the affections of her subjects; for which reason he advised her to visit Scotland without guards and without soldiers, and he became solemnly bound to secure their obedience to her. To this advice Mary, though she distrusted its author, listened with attention; and lord James, imagining that she was prejudiced in his favour, took care to improve the favourable opportunity; by which means he obtained a promise of the earldom of Marre.

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Her disputes with Elizabeth.

* See Robertson's History of Mary Queen of Scotland.

Before Mary set out from France, she received an embassy from queen Elizabeth, pressing her to ratify the treaty of Edinburgh, in which she had taken care to get a clause inserted, that Francis and Mary should for ever abstain from assuming the title and arms of England and Ireland. But this was declined by the queen of Scotland, who, in her conference with the English ambassador, gave an eminent proof of her political abilities*. Her refusal greatly augmented the

jealousies which already prevailed between her and Elizabeth, inasmuch that the latter refused her a safe passage through her dominions into Scotland. This was considered by Mary as a high indignity; she returned a very spirited answer, informing her rival, that she could return to her own dominions without any assistance from her, or indeed whether she would or not. In the month of August 1561, Mary set sail from Calais for Scotland. She left France with much regret; and at night ordered her couch to be brought upon deck, desiring the pilot to awaken her in the morning if the coast of France should be in view. The night proved calm, so that the queen had an opportunity once more of indulging herself with a sight of that beloved country. A favourable wind now sprung up, and a thick fog coming on, she escaped a squadron of men of war which Elizabeth had set out to intercept her; and on the 20th of the month she landed safely at Leith.

Scotland.

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Mary lands in Scotland.

But though the Scots received their queen with the greatest demonstrations of joy, it was not long before an irreconcilable quarrel began to take place. The Protestant religion was now established all over the kingdom; and its professors had so far deviated from their own principles, or what ought to have been their principles, that they would grant no toleration to the opposite party, not even to the sovereign herself. In consequence of this, when the queen attempted to celebrate mass in her own chapel of Holyroodhouse, a violent mob assembled, and it was with the utmost difficulty that the lord James Stuart and some other persons of high distinction could appease the tumult. Mary attempted to allay these ferments by a proclamation, in which she promised to take the advice of the states in religious matters; and, in the mean time, declared it to be death for any person to attempt an innovation or alteration of the religion which she found generally established upon her arrival in Scotland. Against this proclamation the earl of Arran protested, and formally told the herald, the queen's proclamation should not protect her attendants and servants if they presumed to commit idolatry and to say mass. John Knox declared from the pulpit, that one mass was more terrible to him than if 10,000 armed enemies had landed in any part of the kingdom to re-establish Popery. The preachers everywhere declaimed against idolatry and the mass; keeping up, by their mistaken zeal, a spirit of discontent and sedition throughout the whole kingdom. John Knox was called before the queen to answer for the freedom of his speeches; but his unbounded boldness when there gave Mary much disquiet, as not knowing in what manner to deal with him. The freedoms, however, which were taken with the queen, could not induce her to depart from that plan of government which she had laid down in France. To the Protestants she resolved to pay the greatest attention; from among them she chose her privy-council, and heaped favours upon the lord James Stuart, who for his activity in promoting the reformation was the most popular man in the kingdom; while to her courtiers of the Roman Catholic persuasion she behaved with a distant formality.

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Is insulted by the Protestants.

In the mean time, the difference between the two rival queens became every day greater. The queen of Scotland pressed Elizabeth to declare her the nearest heir

Scotland. heir to the crown of England, and Elizabeth pressed Mary to confirm the treaty of Edinburgh. With this the latter could not comply, as it would in fact have been renouncing for ever the title to that crown for which she was so earnestly contending. Endless negotiations were the consequence, and the hatred of Elizabeth to Mary continually increased. This year the queen of Scotland amused herself by making a circuit through part of her dominions. From Edinburgh she proceeded to Stirling; from thence to Perth, Dundee, and St Andrew's. Though received everywhere with the greatest acclamations and marks of affection, she could not but remark the rooted aversion which had universally taken place against Popery; and upon her return to Edinburgh, her attention was called to an exertion of this zeal, which may be considered as highly characteristic of the times. The magistrates of this city, after their election, enacted rules, according to custom, for the government of their borough. By one of these acts, which they published by proclamation, they commanded all monks, friars, and priests, together with all adulterers and fornicators, to depart from the town and its limits within 24 hours, under the pains of correction and punishment. Mary, justly interpreting this exertion of power to be an usurpation of the royal authority, and a violation of order, displaced the magistrates, commanded the citizens to elect others in their room, and granted by proclamation a plenary indulgence to all her subjects not convicted of any crime, to repair to and remain in her capital at their pleasure.

607 Bigotry of the magistrates of Edinburgh.

Besides these disturbances on account of religion, the kingdom was now in confusion on another account. The long continuance of civil wars had left a proneness to tumults and insurrections everywhere; and thefts, rapine, and licentiousness of every kind, threatened to subvert the foundations of civil society. Mary made considerable preparations for the suppression of these disorders, and appointed the lord James Stuart her chief justiciar and lieutenant. He was to hold two criminal courts, the one at Jedburgh, and the other at Dumfries. To assist his operations against the banditti, who were armed, and often associated into bodies, a military force was necessary; but as there were at present neither standing army nor regular troops in the kingdom, the county of Edinburgh, and ten others, were commanded to have their strength in readiness to assist him. The feudal tenants, and the allodial or free proprietors of these districts, in complete armour, and with provisions for 20 days, were appointed to be subservient to the purposes of his commission, and to obey his orders in establishing the public tranquillity. In this expedition he was attended with his usual success. He destroyed many of the strong-holds of the banditti; he changed 20 of the most notorious offenders; and ordered 50 more to be carried to Edinburgh, there to suffer the penalties of law on account of their rebellious behaviour. He entered into terms with the lord Grey and Sir John Foster, the wardens of the English borders, for the mutual benefit of the two nations; and he commanded the chiefs of the disorderly clans to submit to the queen, and to obey her orders with regard to the securing of the peace, and preventing insurrections and depredations for the future.

In the mean time the queen was in a very disagree-

able situation, being suspected and distrusted by both parties. From the concessions she had made to the Protestants, the Papists supposed that she had a design of renouncing their religion altogether; while, on the other hand, the Protestants could scarcely allow themselves to believe that they owed any allegiance to an idolater. Disquiets of another kind also now took place. The duke of Chatelherault, having left the Catholics to join the opposite party, was neglected by his sovereign. Being afraid of some danger to himself, he fortified the castle of Dumbarton, which he resolved to defend; and in case of necessity to put himself under the protection of the queen of England.—The earl of Arran was a man of very slender abilities, but of boundless ambition. The queen's beauty had made an impression on his heart, and his ambition made him fancy himself the fittest person in the kingdom for her husband. But his fanaticism, and the violence with which he had opposed the mass, disgusted her. He bore her dislike with an uneasiness that preyed upon his intellects and disordered them. It was even supposed that he had concerted a scheme to possess himself of her person by armed retainers; and the lords of her court were commanded to be in readiness to defeat any project of this sort. The earl of Bothwell was distinguished chiefly by his prodigalities and the licentiousness of his manners. The earl of Marischal had every thing that was honourable in his intentions, but was overwary and slow. The earl of Morton possessed penetration and ability, but was attached to no party or measures from any principles of rectitude: His own advantage and interests were the motives which governed him. The earl of Huntley the lord chancellor, was unquiet, variable, and vindictive: His passions, now fermenting with violence, were soon to break forth in the most dangerous practices. The earls of Glencairn and Menteith were deeply tinctured with fanaticism; and their inordinate zeal for the new opinions, not less than their poverty, recommended them to queen Elizabeth. Her ambassador Randolph, advised her to secure their service, by addressing herself to their necessities. Among courtiers of this description, it was difficult for Mary to make a selection of ministers in whom to confide. The consequence and popularity of the lord James Stuart, and of Maitland of Lethington, had early pointed them out to this distinction; and hitherto they had acted to her satisfaction. They were each of eminent capacity: but the former was suspected of aiming at the sovereignty; the latter was prone to refinement and duplicity; and both were more connected with Elizabeth than became them as the ministers and subjects of another sovereign.

Beside the policy of employing and trusting statesmen who were Protestants, and the precaution of maintaining a firm peace with England, Mary had it also at heart to enrich the crown with the revenues of the ancient church. A convention of estates was assembled to deliberate upon this measure. The bishops were alarmed with their perilous situation. It was made known to them, that the charge of the queen's household required an augmentation; and that as the rents of the church had flowed chiefly from the crown, it was expedient that a proper proportion of them should now be resumed to uphold its splendour. After long consultations, the prelates and estate ecclesiastical, consider-

Scotland. 610 Mary distrusted by both parties. 611 Characters of her different courtiers.

612 She obtains a part of the ecclesiastical revenues.

Scotland. ing that they existed merely by the favour of the queen, consented to resign to her the third part of their benefices, to be managed at her pleasure; with the reservation that they should be secured during their lives against all farther payments, and relieved from the burden of contributing to the maintenance of the reformed clergy. With this offer the queen and the convention of estates were satisfied. Rentals, accordingly, of all their benefices throughout the kingdom, were ordered to be produced by the ancient ecclesiastics; the reformed ministers, superintendants, elders, and deacons, were enjoined to make out registers of the grants or provisions necessary to support their establishment; and a supereminent power of judging in these matters was committed to the queen and the privy-council.

While the prelates and estate ecclesiastical submitted to this offer from the necessity of their affairs, it was by no means acceptable to the reformed clergy, who at this time were holding an assembly. It was their earnest wish to effect the entire destruction of the ancient establishment, to succeed to a large proportion of their emoluments, and to be altogether independent of the crown. But while the Protestant preachers were naturally and unanimously of these sentiments, the nobles and gentlemen who had promoted the reformation were disposed to think very differently. To give too much of the wealth of the church to the reformed clergy, was to invest them with a dangerous power. To give too great a proportion of it to the crown, was a step still more dangerous. At the same time it was equitable, that the ancient clergy should be maintained during their lives; and it consisted with the private interests of the noblemen and gentlemen, who had figured during the reformation, not to consent to any scheme that would deprive them of the spoils of which they had already possessed themselves out of the ruins of the church, or which they might still be enabled to acquire.

613
Bad success
of the de-
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the Prote-
stants.

Thus public as well as private considerations contributed to separate and divide the lay Protestants and the preachers. The general assembly, therefore, of the church, was not by any means successful in the views which had called them together at this time, and which they submitted to the convention of estates. Doubts were entertained whether the church had any title to assemble itself. The petition preferred for the complete abolition of idolatry, or for the utter prohibition of the mass, was rejected, notwithstanding all the zeal manifested by the brethren. The request that Mary should give authority to the book of discipline, was not only refused, but even treated with ridicule. The only point pressed by the church, which attracted any notice, was its requisition of a provision or a maintenance; but the measure invented for this end was in opposition to all its warmest desires.

This measure, however, so unpromising to the preachers in expectation, was found to be still more unsatisfactory upon trial. The wealth of the Romish church had been immense, but great invasions had been made upon it. The fears of the ecclesiastics, upon the overthrow of popery, induced them to engage in fraudulent transactions with their kinsmen and relations; in consequence of which many possessions were conveyed from the church into private hands. For valuable considerations, leases of church-lands, to endure for many years, or in perpetuity, were granted to strangers and adven-

turers. Sales also of ecclesiastical property, to a great extent, had been made by the ancient incumbents; and a validity was supposed to be given to these transactions by confirmations from the pope, who was zealous to assist his votaries. Even the crown itself had contributed to make improper dispositions of the ecclesiastical revenues. Laymen had been presented to bishoprics and church-livings, with the power of disposing of the territory in connection with them. In this diffusion of the property of the church, many fair acquisitions, and much extensive domain, came to be invested in the nobles and the gentry.

From these causes, the grant of the third of their benefices, made by the ancient ecclesiastics to the queen, with the burden of maintaining the reformed clergy, was not near so considerable as might have been expected. But the direction of the scheme being lodged in the queen and the privy-council, the advantage to the crown was still greater than that bestowed upon the preachers. Yet the carrying the project into execution was not without its inconveniences. There were still many opportunities for artifice and corruption; and the full third of the ecclesiastical benefices, even after all the previous abstractions of them which had been made, could not be levied by any diligence. For the ecclesiastics often produced false rentals of their benefices; and the collectors for the crown were not always faithful to the trust reposed in them. The complete produce of the thirds did not amount to a great sum; and it was to operate to the expences of the queen, as well as to the support of the preachers. A scanty proportion went to the latter; and yet the persons who were chosen to fix and ascertain their particular stipends or provisions were the fast friends of the reformation. For this business was committed in charge to the earls of Argyle and Morton, the lord James Stuart, and Maitland of Lethington, with James Mackgill the clerk-register, and Sir John Ballenden the justice-clerk. One hundred Scottish merks were deemed sufficient for a common minister. To the clergymen of greater interest or consideration, or who exercised their functions in more extensive parishes, 300 merks were allotted; and, excepting to superintendants, this sum was seldom exceeded. To the earl of Argyle, to the lord James Stuart, to Lord Erskine, who had large ecclesiastical revenues, their thirds were usually remitted by the queen; and upon the establishment of this fund or revenue, she also granted many pensions to persons about her court and of her household.

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Provision
made for
the Prote-
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preachers.

The complaints of the preachers were made with little decency, and did not contribute to better their condition. The coldness of the Protestant laity, and the humanity shown to the ancient clergy, were deep wounds both to their pride and to their interests. To a mean spirit of flattery to the reigning power, they imputed the defection of their friends; and against the queen they were animated with the bitterest animosity. The poverty in which they were suffered to remain inflamed all their passions. They industriously sought to indulge their rancour and turbulence; and inveterate habits of insult fortified them into a contempt of authority.

To the queen, whose temper was warm, the rudeness of the preachers was a painful and endless inquietude, which, while it fostered her religious prejudices, had the good effect to confirm her constancy to her friends, and

615
The whole
party dis-
satisfied.

Scotland. and to keep alive her gratitude for their activity. The lord James Stuart, who was intitled to her respect and esteem from his abilities, and his proximity to her in blood, had merited rewards and honours by his public services and the vigour of his counsels. After his successful discharge of her commission as chief justiciar and lord lieutenant, she could not think of allowing him to descend from these offices, without bestowing upon him a solid and permanent mark of her favour. She advanced him into the rank of her nobility, by conferring upon him the earldom of Marre. At the same time she contributed to augment his consequence, by facilitating his marriage with Agnes the daughter of the earl of Marischal; and the ceremonial of this alliance was celebrated with a magnificence and ostentation so extravagant in that age, as to excite the fears of the preachers lest some avenging judgment or calamity should afflict the land. They exclaimed with virulence against his riotous feasting and banquets; and the masquerades which were exhibited upon this occasion, attracting in a still greater degree their attention, as being a species of entertainment hitherto unknown in Scotland, and which was favourable to the profaneness of gallantry, they pointed against them the keenest strokes of their censure and indignation.

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Honours
conferred
upon lord
James
Stuart.

617
Enmity of
the earl of
Huntley
towards
him.

618
Huntley
presses the
queen to
restore the
Popish re-
ligion.

The abilities of the earl of Marre, the ascendancy he maintained in the councils of his sovereign, and the distinctions which he had acquired, did not fail to expose him to uncommon envy. The most desperate of his enemies, and the most formidable, was the earl of Huntley. In their rivalry for power, many causes of disgust had arisen. The one was at the head of the Protestants, the other was the leader of the Papists. Upon the death of Francis II. Huntley and the Popish faction had sent a deputation to Mary, inviting her to return to Scotland, and offering to support her with an army of 20,000 men. His advances were treated with attention and civility, but his offer was rejected. The invitation of the Protestants, presented by the earl of Marre, was more acceptable to her. Huntley had advised her to detain his rival in confinement in France till the Roman Catholic religion should be re-established in Scotland. This advice she not only disregarded, but caressed his enemy with particular civilities. Upon her arrival in her own country, Huntley renewed his advances, offering to her to set up the mass in all the northern counties. He even conversed in a pressing manner upon this subject with her uncles and the French courtiers who attended her. Still no real attention was paid to him. He came to her palace, and was received only with respect. He was lord high chancellor without influence, and a privy counsellor without trust. The earl of Marre had the confidence of his sovereign, and was drawing to him the authority of government. These were cruel mortifications to a man of high rank, inordinate ambition, immense wealth, and who commanded numerous and warlike retainers. But he was yet to feel a stroke still more severely excruciating, and far more destructive of his consequence. The opulent estate of Marre, which Mary had erected into an earldom, and conferred upon his rival, had been lodged in his family for some time. He considered it as his property, and that it was never to be torn from his house. This blow was at once to insult most sensibly his pride, and to cut most fatally the sinews of his greatness.

After employing against the earl of Marre those arts of detraction and calumny which are so common in courts, he drew up and subscribed a formal memorial, in which he accused him of aiming at the sovereignty of Scotland. This paper he presented to the queen; James but the arguments with which he supported his charge being weak and inconclusive, she was the more confirmed in her attachment to her minister. Huntley then addressing himself to the earl of Bothwell, a man disposed to desperate courses, engaged him to attempt to involve the earl of Marre and the house of Hamilton in open and violent contention. Bothwell represented to Marre the enmity which had long subsisted between him and the house of Hamilton. It was an obstacle to his greatness; and while its destruction might raise him to the highest pinnacle of power, it would be most acceptable to the queen, who, beside the hatred which princes naturally entertain to their successors, was animated by particular causes of offence against the duke of Chatelherault and the earl of Arran. He concluded his exhortation with making an unlimited offer of his most strenuous services in the execution of this flagitious enterprise. The earl of Marre, however, abhorring the baseness of the project, suspicious of the sincerity of the proposer, or satisfied that his eminence did not require the aid of such arts, rejected all his advances. Bothwell, disappointed upon one side, turned himself to the other. He practised with the house of Hamilton to assassinate the earl of Marre, whom they considered as their greatest enemy. The business, he said, might be performed with ease and expedition. The queen was in use to hunt the deer in the park of Falkland; and there the earl of Marre, unsuspecting any danger, and slenderly attended, might be overpowered and put to death. The person of the queen, at the same time, might be seized; and by detaining her in custody, a sanction and security might be given to their crime. The integrity of the earl of Arran revolting against this conspiracy, defeated its purposes. Dreading the perpetration of so cruel an action, and yet sensible of the resolute determination of his friends, he wrote privately to the earl of Marre, informing him of his danger. But the return of Marre to his letter, thanking him for his intelligence, being intercepted by the conspirators, Arran was confined by them under a guard in Kenneil-house. He effected notwithstanding his escape, and made a full discovery of the plot to the queen. Yet in a matter so dark he could produce no witnesses and no written vouchers to confirm his accusations. He therefore, according to the fashion of the times, offered to prove his information, by engaging Bothwell in single combat. And though, in his examinations before the privy council, his love to the queen, his attachment to the earl of Marre, the atrocity of the scheme he revealed, and, above all, his duty and concern for his father the duke of Chatelherault, threw him into a perturbation of mind which expressed itself violently in his speech, his countenance, and his actions; yet his declarations, in general, were so consistent and firm, that it was thought advisable to take the command of the castle of Dumbarton from the duke of Chatelherault, to confine the other conspirators to different prisons, and to wait the farther discoveries which might be made by accident and time.

The

Scotland.

The earl of Huntley, inflamed by these disappointments, invented other devices. He excited a tumult while the queen and the earl of Marre were at St Andrew's with only a few attendants; imagining that the latter would fall forth to quell the insurgents, and that a convenient opportunity would thus be afforded for putting him to the sword without detection. The caution, however, of the earl of Marre, defeating this purpose, he ordered some of his retainers to attack him in the evening when he should leave the queen; but these assassins being surprised in their station, Huntley affected to excuse their being in arms in a suspicious place and at a late hour, by frivolous apologies, which, though admitted, could not be approved.

About this period, too, letters were received by Mary from the pope and the cardinal of Lorrain, in consequence of the intrigues of the earl of Huntley and the Roman Catholic faction. They pressed her to consider, that while this nobleman was the most powerful of her subjects, he was by far the most zealous in the interests of the church of Rome. They intreated her to flatter him with the hope of her marriage with Sir John Gordon his second son; held out to her magnificent promises of money and military supplies, if she would set herself seriously to recover to power and splendour the ancient religion of her country; and recommended it to her to take measures to destroy the more strenuous Protestants about her court, of whom a roll was transmitted to her, which included the name of her confident and minister the earl of Marre. These letters could not have reached her at a juncture more unfavourable for their success. The earl of Marre, to whom she communicated them, was encouraged to proceed with the greatest vigour in undermining the designs and the importance of his enemies.

622

Sir John Gordon wounds lord Ogilvy, and is apprehended;

New incidents exasperated the animosities of the enemies of the earl of Marre and his own. Sir John Gordon and the lord Ogilvie having a private dispute, happened to meet each other in the high street of Edinburgh. They immediately drew their swords; and the lord Ogilvie receiving a very dangerous wound, Sir John Gordon was committed to prison by the magistrates. The queen, at this time in Stirling, was informed by them of the riot; and while they expressed a fear lest the friends of the prisoner should rise up in arms to give him his liberty, they mentioned a suspicion which prevailed, that the partizans of the lord Ogilvie were to assemble themselves to vindicate his quarrel. The queen, in her reply, after commending their diligence, instructed them to continue to have a watch over their prisoner; made known her desire that the law should take its course; and counselled them to have no apprehensions of the kindred of the parties at variance, but to rely upon the earl of Marre for providing a sufficient force for their protection. Sir John Gordon, however, found the means to break from his confinement; and flying into Aberdeenshire, filled the retainers of his family with his complaints, and added to the disquiets of his father the earl of Huntley.

623

But escapes from prison,

The queen, upon returning to Edinburgh, held a consultation upon affairs of state with her privy council; and soon after set out upon a progress to the northern parts of her kingdom. At Aberdeen she was met by the lady Huntley, a woman of deep diffi-

mulation and of refined address; who endeavoured to conciliate her affections, was prodigal of flattery, expressed her zeal for the Popish religion, and let fall insinuations of the great power of her husband. She then interceded with the queen for forgiveness to her son: and begged with a keen importunity, that he might be permitted to have the honour to kiss her hand. But Mary having told her, that the favour she had solicited could not possibly be granted till her son should return to the prison from which he had escaped, and submit to the justice of his country, the lady Huntley engaged that he should enter again into custody, and only intreated, that, instead of being confined at Edinburgh, he should be conducted to the castle of Stirling. This request was complied with; and in the prosecution of the business, a court of justiciary being called, Sir John Gordon made his appearance, and acknowledged himself to be the queen's prisoner. The lord Glamis was appointed to conduct him to the castle of Stirling. But upon the road to this fortress, he deceived the vigilance of his guards, hastened back, and gathering 1000 horsemen among his retainers, entrusted his security to the sword. 624

And attempts to raise a rebellion.

In the mean time, the queen continued her progress. The earl of Huntley joined himself to her train. His anxiety to induce her to allow him to attend her to his house of Strathbogy was uncommon; his intreaties were even pressed beyond the bounds of propriety. The intelligence arrived of the escape and rebellion of Sir John Gordon. The behaviour of the father and the son awakened in her the most alarming suspicions. Assembling her privy-council, who, according to the fashion of those times, constituted her court, and attended her person in her progresses through her dominions; she, with their advice, commanded her heralds to charge Sir John Gordon and his adherents to return to their allegiance, and to surrender up to her their houses of strength and castles, under the pains of high treason and forfeiture. Disdaining now to go to the house of the earl of Huntley, where, as it afterwards appeared, that nobleman had made secret preparations to hold her in captivity, she advanced to Inverness by a different route. In the castle of Inverness she proposed to take up her residence; but Alexander Gordon the deputy governor, a dependent of the family of Huntley, refused to admit her. She was terrified with the prospect of a certain and imminent danger. Her attendants were few in number, the town was without walls, and the inhabitants were suspected. In this extremity, some ships in the river were kept in readiness as a last refuge; and she issued a proclamation, commanding all her loyal subjects in those parts immediately to repair to her for her protection. The Frasers and Monroes came in crowds to make her the offer of their swords. The Clan Chattan, though called to arms by the earl of Huntley, forsook his standard for that of their sovereign, when they discovered that his intentions were hostile to her. She employed this strength in laying siege to the castle, which surrendered itself upon the first assault. The lives of the common soldiers were spared, but the deputy-governor was instantly executed. The queen, full of apprehensions, returned to Aberdeen.

To intimidate the earl of Huntley, to punish the troubles which his family had created to the queen, and to convince him that his utter ruin was at hand,

a mea-

Scotland. a measure infinitely humiliating was now concerted and put in practice. The earl of Marre resigned the rich estate of that name to the lord Erskine, who laid claim to it as his right; and received in recompense, after its erection into an earldom, the territory of Murray, which made an extensive portion of the possessions of the earl of Huntley.

625
Earl of
Huntley
defeated by
the earl of
Murray.

The lady Huntley hastened to Aberdeen to throw herself at the feet of her sovereign, to make the offer of the most humble submissions on the part of her husband, and to avert by every possible means the downfall of his greatness. But all access to the queen was refused to her; and the earl of Huntley was summoned to appear in person before the privy council, to answer for his conduct, and to make a full resignation of all his castles and fortresses. He did not present himself, and was declared to be in open rebellion. A new proclamation was circulated by the queen to collect together a sufficient strength to subdue the insurgents. The command of her troops was given to the earl of Murray, who put them instantly into motion. Huntley advancing towards Aberdeen to give them battle, was informed of their approach. He halted at Corrichie, solacing himself with the hope of a decisive victory. The army of the queen was the most numerous; but there were several companies in it in whom little confidence could be placed. These the earl of Murray posted in the front of the battle, and commanded them to begin the attack. They recoiled upon him in disorder, according to his expectation; but a resolute band in whom he trusted, holding out their spears, obliged them to take a different course. Their confusion and flight made Huntley conceive that the day was his own. He therefore ordered his soldiers to throw aside their lances, and to rush upon the enemy sword in hand. His command was obeyed, but with no precaution or discipline. When his men came to the place where the earl of Murray had stationed himself, the points of the extended spears of his firm battalion put a termination to their progress. The panic communicated by this unexpected resistance was improved by the vigour with which he pressed the assailants. In their turn they took to flight. The companies of the queen's army which had given way in the beginning of the conflict were now disposed to atone for their misconduct; and taking a share in the battle, committed a signal slaughter upon the retainers of the earl of Huntley. This nobleman himself expired in the throng of the pursuit. His sons Sir John Gordon and Adam Gordon were made prisoners, with the principal gentlemen who had assisted him.

Mary, upon receiving the tidings of this success, discovered neither joy nor sorrow. The passions, however, of the earl of Murray and his party were not yet completely gratified. Sir John Gordon was brought immediately to trial, confessed his guilt, and was condemned to suffer as a traitor. The sentence accordingly was executed, amidst a multitude of spectators, whose feelings were deeply affected, while they considered his immature death, the manliness of his spirit, and the vigour of his form. Adam Gordon, upon account of his tender age, was pardoned; and fines were levied from the other captives of condition according to their wealth. The lord Gordon, after the battle of Corrichie, fled to his father-in-law the duke of Chatel-

herault, and put himself under his protection; but was delivered up by that nobleman, all whose endeavours in his favour were ineffectual. He was convicted of treason, and condemned; but the queen was satisfied with confining him in prison. The dead body of the earl of Huntley was carried to Edinburgh, and kept without burial, till a charge of high treason was preferred against him before the three estates. An ostentatious display was made of his criminal enterprises, and a verdict of parliament pronounced his guilt. His estates, hereditary and moveable, were forfeited; his dignity, name, and memory, were pronounced to be extinct; his ensigns armorial were torn from the book of arms; and his posterity were rendered unable to enjoy any offices, honour, or rank, within the realm.

While these scenes were transacting, Mary, who was sincerely solicitous to establish a secure amity between the two kingdoms, opened a negotiation to effectuate an interview with Elizabeth. Secretary Maitland, whom she employed in this business, met with a most gracious reception at the court of London. The city of York was appointed as the place where the two queens should express their mutual love and affection; and bind themselves to each other in an indissoluble union; the day of their meeting was fixed; the fashion and articles of their interview were adjusted; and a safe-conduct into England was granted to the queen of Scots by Elizabeth. But in this advanced state of the treaty it was unexpectedly interrupted. The disturbances in France, the persecution of the Protestants there, and the dangerous consequence which threatened the reformed countries, seemed to require Elizabeth to be particularly upon her guard, and to watch with eagerness against the machinations of the adversaries of her religion. Upon these pretences she declined for a season the projected interview; sending to Mary with this apology Sir Henry Sidney, a minister of ability, whom she instructed to dive into the secret views of the Scottish queen. This was a severe disappointment to Mary; but it is reasonable to believe, that Elizabeth acted in the negotiation without sincerity, and upon principles of policy. It was not her interest to admit into her kingdom a queen who had pretensions to her crown, and who might strengthen them; who might raise the expectations of her Roman Catholic subjects, and advance herself in their esteem; and who far surpassed her in beauty, and in the bewitching allurements of conversation and behaviour.

Amidst affairs of great moment, a matter of smaller consequence, but which is interesting in its circumstances, deserves to be recorded. Chatelard, a gentleman of family in Dauphiny, and a relation of the chevalier de Bayard, had been introduced to queen Mary by the sieur Damville, the heir of the house of Montmorency. Polished manners, vivacity, attention to please, the talent of making verses, and an agreeable figure, were recommendations to this man. In the court they drew attention to him. He made himself necessary in all parties of pleasure at the palace. His assiduities drew to him the notice of the queen; and, at different times, she did him the honour to dance with him. His complaisance became gradually more familiar. He entertained her with his wit and good-humour; he made verses upon her beauty and accomplishments; and her politeness and condescension insinuated into

626

An inter-
view pro-
posed be-
tween Ma-
ry and E-
lizabeth,
but in vain.

627

Chatelard
falls in love
with the
queen.

Scotland. into him other sentiments than gratitude and reverence. He could not behold her charms without feeling their power: and instead of stifling in its birth the most dangerous of all the passions, he encouraged its growth. In an unhappy moment, he entered her apartment; and, concealing himself under her bed, waited the approach of night. While the queen was undressing, her maids discovered his situation, and gave her the alarm. Chatelard was dismissed with disgrace; but soon after received her pardon. The frenzy, however, of his love compelling him to repeat his crime, it was no longer proper to show any compassion to him. The delicate situation of Mary, the noise of these adventures, which had gone abroad, and the rude suspicions of her subjects, required that he should be tried for his offences and punished. This imprudent man was accordingly condemned to lose his head; and the sentence was put in execution.

628
Is put to death.

629
Mary inclines to a second marriage, and is addressed by a number of suitors.

The disagreeable circumstances in which Mary found herself involved by reason of her quarrel with Elizabeth, the excessive bigotry and overbearing spirit of her Protestant subjects, together with the adventure of Chatelard, and the calumnies propagated in consequence of it, determined her to think of a second marriage. Her beauty and expectations of the crown of England, joined to the kingdom which she already possessed, brought her many suitors. She was addressed by the king of Sweden, the king of Navarre, the prince of Condé, the duke of Ferrara, Don Carlos of Spain, the arch-duke Charles of Austria, and the duke of Anjou. Her own inclination was to give the preference, among these illustrious lovers, to the prince of Spain; but her determination, from the first moment, was to make her wishes bend to other considerations, and to render her decision upon this important point as agreeable as possible to queen Elizabeth, to the English nation, and to the Protestants in both kingdoms. Her succession to the crown of England was the object nearest her heart; and Elizabeth, who wished to prevent her from marrying altogether, contrived to impress upon her mind an opinion that any foreign alliance would greatly obstruct that much desired event. She therefore pitched upon two of her own subjects, whom she successively recommended as fit matches for the queen of Scots; and she promised, that upon her acceptance of either of them, her right of inheritance should be inquired into and declared. Lord Robert Dudley, afterwards earl of Leicester, was the first person proposed; and except a manly face and fine figure he had not one quality that could recommend him to the Scottish princess. Whilst Mary received this suitor with some degree of composure, she did not altogether repress her scorn. "She had heard good accounts (she owned) of the gentleman; but as queen Elizabeth had said, that in proposing a husband to her, she would consult her honour, she asked what honour there could be in marrying a subject?" The English queen then brought under the eye of Mary another suitor, lest her thoughts should return to a foreign alliance. This was lord Darnley, of the house of Stuart itself, whose birth was almost equal to her own, and whom the Scottish princess was induced to accept as a husband by motives which we have detailed elsewhere. (see MARY.) Elizabeth however was not more sincere in this proposal than in the former; for after permitting Darnley and his father the earl of Lenox to visit

630
She makes choice of lord Darnley.

Scotland merely with the view of diverting the attention of the Queen from the continent, she threw every obstacle in the way of the marriage which art and violence could contrive. When she found Mary so much entangled, that she could hardly draw back, or make any other choice than that of Darnley, Elizabeth attempted to prevent her from going farther on; and now intimated her disapprobation of that marriage, which she herself had not only originally planned, but, in these latter stages, had forwarded by every means in her power. The whole council of Elizabeth declared against the marriage. Even from her own subjects Mary met with considerable opposition. An inveterate enmity had taken place between the duke of Chatelherault and the earl of Lenox, in consequence of which the former deserted the court, and very few of the Hamiltons repaired to it. The lord James Stuart, now earl of Murray, sought to promote the match with lord Dudley. In consequence of this he was treated openly with disrespect by the earl of Lenox; he lost the favour of his sovereign, and Darnley threatened him with his vengeance when he should be married to the queen. John Knox in the mean time behaved in the most furious manner, forgetting not only the meek and peaceable behaviour of a Christian, but the allegiance of a subject. This preacher even interfered with the marriage of his sovereign. He warned the nobility, that if they allowed a Papist or an infidel to obtain her person and the government of Scotland, they would be guilty, to the full extent of their power, of banishing Jesus Christ from the kingdom, of bringing down upon it the vengeance of God, of being a curse to themselves, and of depriving their queen of all comfort and consolation. As Darnley was a Papist, he was of consequence execrated by the whole body of Protestants, laity as well as clergy; while, on the other hand, he was supported by the earls of Athol and Caithness, the lords Ruthven and Hume, and the whole Popish faction.

631
Extravagant behaviour of John Knox.

It was exceedingly unfortunate for the queen, that neither lord Darnley himself, nor his father the earl of Lenox, had any talents for business; and as they naturally had the direction of the queen's affairs, it is no wonder that they were very ill managed. But a source of opposition, more violent than any imperfections of their own, rose up to them in the attachment which they discovered to a person upon whom the queen had of late bestowed her favour with an imprudent prodigality. David Rizzio from a mean origin raised himself to a distinguished eminence. He was born at Turin, where his father earned a subsistence as a musician. Varieties of situation and adventure, poverty, and misfortunes, had taught him experience. In the train of the count de Morette, the ambassador from the duke of Savoy, he had arrived in Scotland. The queen, desirous to complete her band of music, admitted him into her service. In this humble station he had the dexterity to attract her attention; and her French secretary falling into disgrace, from negligence and incapacity, he was promoted to discharge the duties of his office. A necessary and frequent admission to her company afforded him now the fullest opportunity to recommend himself to her; and while she approved his manners, she was sensible of his fidelity and his talents. His mind, however, was not sufficiently vigorous to bear with success and prosperity. Ambition grew upon him with preferment. He interfered

632
Account of David Rizzio.

Scotland. interfered in affairs of moment, intruded himself into the conventions of the nobles at the palace, and was candidate for greatness. The queen consulted with him upon the most difficult and important business, and intrusted him with real power. The suppleness, servility, and unbounded complaisance which had characterised his former condition, were exchanged for insolence, ostentation, and pride. He exceeded the most potent barons in the stateliness of his demeanour, the sumptuousness of his apparel, and the splendour of his retinue. The nobles, while they despised the lowness of his birth, and detested him as a foreigner, and a favourite, were mortified with his grandeur, and insulted with his arrogance. Their anger and abhorrence were driven into fury; and while this undeserving minion, to uphold his power, courted Darnley, and with officious assiduities advanced his suit with the queen, he hastened not only his own ruin, but laid the foundation of cruel outrages and of public calamity.

633
The earl of
Murray
loses the
queen's fa-
vour.

To the earl of Murray the exaltation of Rizzio, so offensive in general to the nation, was humiliating in a more particular degree. His interference for the earl of Leicester, the partiality he entertained for Elizabeth, his connections with secretary Cecil, and the favour he had shown to Knox, had all contributed to create in Mary a suspicion of his integrity. The practices of Darnley and Rizzio were thence the more effectual; and the fullest weight of their influence was employed to undermine his power. His passions and disgusts were violent; and in his mind he meditated revenge. Mary, aware of her critical situation, was solicitous to add to her strength. Bothwell, who had been imprisoned for conspiring against the life of the earl of Murray, and who had escaped from confinement, was recalled from France; the earl of Sutherland, an exile in Flanders, was invited home to receive his pardon; and George Gordon, the son of the earl of Huntley, was admitted to favour, and was soon to be reinstated in the wealth and honours of his family.

As soon as Bothwell arrived, the earl of Murray insisted that he should be brought to a trial for having plotted against his life, and for having broke from the place of his confinement. This was agreed to; and on the day of trial Murray made his appearance with 800 of his adherents. Bothwell did not chuse to contend with such a formidable enemy; he therefore fled to France, and a protestation was made, importing that his fear of violence had been the cause of his flight. The queen commanded the judge not to pronounce sentence. Murray complained loudly of her partiality, and engaged deeper and deeper in cabals with queen Elizabeth. Darnley, in the mean time, pressed his suit with eagerness. The queen used her utmost endeavours to cause Murray subscribe a paper expressing a consent to her marriage; but all was to no purpose. However, many of the nobility did subscribe this paper; and she ventured to summon a convention of the estates at Stirling, to whom she opened the business of the marriage; and who approved of her choice, provided the Protestant religion should continue to be the establishment.

In the mean time ambassadors arrived from England, with a message importing Elizabeth's entire disapprobation and disallowance of the queen's marriage with lord Darnley. But to these ambassadors Mary only

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replied, that matters were gone too far to be recalled; and that Elizabeth had no solid cause of displeasure, since, by her advice, she had fixed her affections not upon a foreigner, but upon an Englishman; and since the person she favoured was descended of a distinguished lineage, and could boast of having in his veins the royal blood of both kingdoms. Immediately after this audience she created lord Darnley a lord and a knight. The oath of knighthood was administered to him. He was made a baron and a banneret, and called *lord Armanagh*. He was belted earl of Ross. He then promoted 14 gentlemen to the honour of knighthood, and did homage to the queen, without any reservation of duty to the crown of England, where his family had for a long time resided. His advancement to be duke of Albany was delayed for a little time; and this was so much resented by him, that, when informed of it by the lord Ruthven, he threatened to stab that nobleman with his dagger.

In the mean time the day appointed for the assembly of parliament, which was finally to determine the subject of the marriage, was now approaching. The earl of Murray, encouraged by the apparent firmness of Elizabeth, goaded on by ambition, and alarmed with the approbation bestowed by the convention of the estates on the queen's choice of lord Darnley, perceived that the moment was at hand when a decisive blow should be struck. To inspirit the resentments of his friends, and to justify in some measure the violence of his projects, he affected to be under apprehensions of being assassinated by the lord Darnley. His fears were founded abroad; and he avoided to go to Perth, where he affirmed that the plot against him was to be carried into execution. He courted the enemies of Darnley with unceasing assiduity; and he united to him in a confederacy the duke of Chatelherault, and the earls of Argyle, Rothes, and Glencairn. It was not the sole object of their association to oppose the marriage. They engaged in more criminal enterprises. They meditated the death of the earl of Lenox and the lord Darnley; and while the queen was upon the road to Calander place to visit the lord Livingston, they proposed to intercept her and to hold her in captivity. In this state of her humiliation, Murray was to advance himself into the government of the kingdom, under the character of its regent. But Mary having received intelligence of their conspiracy, the earl of Athol and the lord Ruthven raised suddenly 300 men to protect her in her journey. Defeated in this scheme, the earl of Murray and his associates did not relinquish their cabals. They thought of new achievements; and the nation was filled with alarms, suspicions, and terror.

Amidst the arts employed by the Scottish malcontents to inflame the animosities of the nation, they forced raised got not to insist upon the dangers which threatened the Protestant religion from the advancement of lord Darnley, and from the rupture that must ensue with England. Letters were everywhere dispersed among the faithful, reminding them of what the eternal God had wrought for them in the abolition of idolatry, and admonishing them to oppose the restoration of the mass. A supplication was presented to the queen, complaining of idolaters, and insisting upon their punishment. In the present juncture of affairs it was received with unusual respect; and Mary instructed the Popish ecclesiastics to

G

abstain

Scotland.

634
An associa-
tion against
the queen
and Darn-
ley.

635
Disturban-
ces raised
by the Pro-
testants.

Scotland.

abstain from giving offence of any kind to the Protestants. A priest, however, having celebrated the mass, was taken by the brethren, and exposed to the insults and fury of the populace at the market-place of Edinburgh, in the garments of his profession, and with the chalice in his hand; and the queen having given a check to this tumultuous proceeding, the Protestants, rising in their wrath, were the more confirmed in the belief that she meant to overthrow their religion. The most learned and able of the clergy held frequent consultations together; and while the nation was disturbed with dangerous ferments, the general assembly was called to deliberate upon the affairs of the church. Their hope of success being proportioned to the difficulties in the situation of the queen, they were the less scrupulous in forming their resolutions; and the commissioners, whom they deputed to her, were ordered to demand a parliamentary ratification of their desires.

636
Their demands.

They insisted, that the mass, with every remain whatsoever of popery, should be universally suppressed throughout the kingdom; that in this reformation, the queen's person and household should be included; and that all Papists and idolaters should be punished upon conviction according to the laws. They contended, that persons of every description and degree should resort to the churches upon Sunday, to join in prayers, and to attend to exhortations and sermons; that an independent provision should be assigned for the support of the present clergy, and for their successors; that all vacant benefices should be conferred upon persons found to be qualified for the ministry, upon the trial and examination of the superintendants; that no bishopric, abbey, priory, deanery, or other living, having many churches, should be bestowed upon a single person; but that, the plurality of the foundation being dissolved, each church should be provided with a minister; that the glebes and manse should be allotted for the residence of the ministers, and for the reparation of churches; that no charge in schools or universities, and no care of education, either public or private, should be intrusted to any person who was not sound and able in doctrine, and who was not approved by the superintendants; that all lands which of old had been devoted to hospitality, should again be made subservient to it; that the lands and rents which formerly belonged to the monks of every order, with the annuities, alterages, obits, and the other emoluments which had appertained to priests, should be employed in the maintenance of the poor and the upholding of schools; that all horrible crimes, such as idolatry, blasphemy, breaking of the sabbath, witchcraft, sorcery, enchantment, adultery, manifest whoredom, the keeping of brothels, murder, and oppression, should be punished with severity; that judges should be appointed in every district, with powers to pronounce sentences and to execute them; and, in fine, that for the ease of the labouring husbandmen, some order should be devised concerning a reasonable payment of the tithes.

637
Moderation of the queen.

To these requisitions, the queen made an answer full of moderation and humanity. She was ready to agree with the three estates in establishing the reformed religion over the subjects of Scotland; and she was steadily resolved not to throw into hazard the life, the peace, or the fortune, of any person whatsoever upon account of his opinions. As to herself and her household, she was

persuaded that her people would not urge her to adopt tenets in contradiction to her own conscience, and thereby involve her in remorse and uneasiness. She had been nourished and brought up in the Romish faith; she conceived it to be founded on the word of God; and she was desirous to continue in it. But, setting aside her belief and religious duty, she ventured to assure them, that she was convinced from political reasons, that it was her interest to maintain herself firm in the Roman Catholic persuasion. By departing from it, she would forfeit the amity of the king of France, and that of other princes who were now strongly attached to her; and their disaffection could not be repaired or compensated by any new alliance. To her subjects she left the fullest liberty of conscience; and they could not surely refuse to their sovereign the same right and indulgence. With regard to the patronage of benefices, it was a prerogative and property which it would ill become her to violate. Her necessities, and the charge of her royal dignity, required her to retain in her hands the patrimony of the crown. After the purposes, however, of her station, and the exigences of government, were satisfied, she could not object to a special assignment of revenue for the maintenance of the ministry; and, on the subject of the other articles which had been submitted to her, she was willing to be directed by the three estates of the kingdom, and to concur in the resolutions which should appear to them the most reasonable and expedient.

The clergy, in a new assembly or convention, expressed a high displeasure with this return to their address. They took the liberty to inform the queen, that the doctrines of the reformation which she refused to adopt, were the religion which had been revealed by Jesus Christ, and taught by the apostles. Popery was of all persuasions the least alluring, and had the fewest recommendations. In antiquity, consent of people, authority of princes, and number of proselytes, it was plainly inferior to Judaism. It did not even rest upon a foundation so solid as the doctrines of the alcoran. They required her, therefore, in the name of the eternal God, to embrace the means of attaining the truth, which were offered to her in the preaching of the word, or by the appointment of public disputations between them and their adversaries. The terrors of the mass were placed before her in all their deformity. The sayer of it, the action itself, and the opinions expressed in it, were all pronounced to be equally abominable. To hear the mass, or to gaze upon it, was to commit the complicated crimes of sacrilege, blasphemy, and idolatry. Her delicacy in not renouncing her opinions from the apprehension of offending the king of France and her other allies, they ridiculed as impertinent in the highest degree. They told her, that the true religion of Christ was the only means by which any confederacy could endure; and that it was far more precious than the alliance of any potentate whatsoever, as it would bring to her the friendship of the King of kings. As to patronages, being a portion of her patrimony, they intended not to defraud her of her rights: but it was their judgment, that the superintendants ought to make a trial of the qualifications of candidates for the ministry; and as it was the duty of the patron to present a person to the benefice, it was the business of the church to manage his institution or collation. For without this restraint,

Scotland.

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The Protestants are displeased with her answer.

Scotland. restraint, there would be no security for the fitness of the incumbent; and if no trials or examinations of ministers took place, the church would be filled with misrule and ignorance. Nor was it right or just that her majesty should retain to herself any part of the revenue of benefices; as it ought to be all employed to the uses of the clergy, for the purposes of education, and for the support of the poor. And as to her opinion, that a suitable assignment should be made for them, they could not but thank her with reverence: but they begged to solicit and importune her to condescend upon the particulars of a proper scheme for this end, and to carry it into execution; and that, taking into a due consideration the other articles of their demands, she would study to comply with them, and to do justice to the religious establishment of her people.

639
They rise
in arms,
but are
soon quell-
ed.

From the fears of the people about their religion, disturbances and insurrections were unavoidable; and before Mary had given her answer to the petitions or address of the clergy, the Protestants, to a formidable number, had marched to St Leonard's Craig; and, dividing themselves into companies, had chosen captains to command them. But the leaders of this tumult being apprehended and committed to close custody, it subsided by degrees; and the queen, upon the intercession of the magistrates of Edinburgh, instead of bringing them to trial, gave them a free pardon. To quiet, at the same time, the apprehensions which had gone abroad, and to controvert the insidious reports which had been industriously spread of her inclination to overturn the reformed doctrines, she repeatedly issued proclamations, assuring her subjects, that it was her fixed determination not to molest or disturb any person whatsoever upon account of his religion or conscience; and that she had never presumed even to think of any innovation that might endanger the tranquillity or do a prejudice to the happiness of the commonwealth.

640
Intrigues of
the rebel-
lious noble-
with Eliza-
beth.

While Mary was conducting her affairs with discernment and ability, the earl of Murray and his confederates continued their consultations and their intrigues. After their disappointment in the conspiracy against the queen and the lord Darnley, they perceived that their only hope of success or security depended upon Elizabeth; and as Randolph had promised them her protection and assistance, they scrupled not to address a letter to her, explaining their views and situation. The pretences of their hostility to their sovereign upon which they affected to insist, were her settled design to overturn the Protestant religion, and her rooted desire to break all correspondence and amity with England. To prevent the accomplishment of these purposes, they said, was the object of their confederacy; and with her support and aid they did not doubt of being able to advance effectually the emolument and advantage of the two kingdoms. In the present state of their affairs, they applied not, however, for any supply of her troops. An aid from her treasury was now only necessary to them; and they engaged to bestow her bounty in the manner the most agreeable to her inclinations and her interests. The pleasure with which Elizabeth received their application was equal to the aversion she had conceived against the queen of Scots. She not only granted to them the relief they requested, but assured them by Randolph of her esteem and favour while they should continue to uphold the reformed religion and the

Scotland. connection of the two nations. Flattered by her assurances and generosity, they were strenuous to gain partisans, and to disunite the friends of their sovereign; and while they were secretly preparing for rebellion, and for trying their strength in the field, they disseminated among the people the tenets, That a Papist could not legally be their king; that the queen was not at liberty of herself to make the choice of a husband; and that, in a matter so weighty, she ought to be entirely directed by the determination of the three estates assembled in parliament.

Elizabeth, at the same time, carrying her dissimulation to the most criminal extremity, commanded Randolph to ask an audience of Mary; and to counsel her to nourish no suspicions of the earl of Murray and his friends; to open her eyes to their sincerity and honour; and to call to mind, that as their services had hitherto preserved her kingdom in repose, her jealousies of them might kindle it into combustion, make the blood of her nobles to flow, and cast into hazard her person and her crown. Full of astonishment at a message so rude and so improper, the queen of Scots desired him to inform his mistress, that she required not her instructions to distinguish between patriotism and treachery; that she was fully sensible when her will or purpose was resisted or obeyed; and that she possessed a power which was more than sufficient to repress and to punish the enormities and the crimes of her subjects. The English resident went now to the earl of Lenox and the lord Darnley, and charged them to return to England. The former expressed an apprehension of the severity of his queen, and sought an assurance of her favour before he could venture to visit her dominions. The latter, exerting greater fortitude, told him, that he acknowledged no duty or obedience but to the queen of Scots. The resident treating this answer as disrespectful to Elizabeth, turned his back upon the lord Darnley, and retired without making any reverence, or bidding him an adieu.

The behaviour of Elizabeth, so fierce and so perfidious, was well calculated to confirm all the intentions of Mary; and this, doubtless, was one of the motives with which she was actuated. But while the queen of Scots was eager to accomplish her marriage, she was not inattentive to the rising troubles of her country. The parliament which she had appointed could not now be held: it was therefore prorogued to a more distant day; and the violence of the times did not then permit it to assemble. By letters she invited to her, with all their retainers, the most powerful and the most eminent of her subjects. Bothwell was recalled anew from France; and by general proclamations she summoned to her standard the united force of her kingdom. The castle of Edinburgh was likewise provided amply with stores and ammunition, that, in the event of misfortunes, it might afford her a retreat and defence. The alacrity with which her subjects flocked to her from every quarter, informed her of her power and popularity; and while it struck Murray and his adherents with the danger to which they were exposed, it declared to them the opinion entertained by the nation of the iniquity and the selfishness of their proceedings.

On the 29th of July 1565, the ceremony of marriage between the queen and lord Darnley was performed. The latter had been previously created duke of Albany.

Scotland.

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He is pro-
claimed
king of
Scotland.

Albany. The day before the marriage, a proclamation was published, commanding him to be styled *king of the realm*, and that all letters after their marriage should be directed in the names of her husband and herself. The day after it, a new proclamation was issued confirming this act: he was pronounced king by the sound of trumpets, and associated with the queen in her government. This measure seems to have been the effect of the extreme love the queen had for her husband, which did not permit her to see that it was an infringement of the constitution of the kingdom; though perhaps she might also be urged to it by the pressing eagerness of lord Darnley himself, and the partial counsels of David Rizzio. The earl of Murray made loud complaints, remonstrated, that a king was imposed upon the nation without the consent of the three estates, and called upon the nation to arm against the beginnings of tyranny. The malcontents accordingly were immediately in arms; but their success was not answerable to their wishes. The bulk of the nation were satisfied with the good intentions of their sovereign, and she herself took the earliest opportunity of crushing the rebellion in its infancy. The earl of Murray was declared a traitor; and similar steps were taken with others of the chiefs of the rebels. She then took the field against them at the head of a considerable army: and having driven them from place to place, obliged them at last to take refuge in England. Queen Elizabeth received them with that duplicity for which her conduct was so remarkable. Though she herself had countenanced, and even excited them to revolt, she refused to give an audience to their deputies. Nay, she even caused them to emit a public declaration, that neither she, nor any person in her name, had ever excited them to their rebellious practices. Yet, while the public behaviour of Elizabeth was so acrimonious, she afforded them a secure retreat in her kingdom, treated the earl of Murray in private with respect and kindness, and commanded the earl of Bedford to supply him with money. Mary, however, resolved to proceed against the rebels with an exemplary rigour. The submissions of the duke of Chatelherault alone, who had been less criminal than the rest, were attended to. But even the favour which he obtained was precarious and uncertain; for he was commanded to use the pretence of sickness, and to pass for some time into foreign countries. A parliament was called; and a summons of treason being executed against the earls of Argyle, Glencairn, and Rothes, with others

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The rebel-
lious nobles
driven into
England.

of the principal rebels, they were commanded to appear before the three estates; in default of which their lives and estates were declared to be forfeited.

In the mean time Throgmorton the English ambassador solicited the pardon of the rebels; which Mary was at first inclined to grant. However, by the persuasion of the court of France, she was not only induced to proceed against them with rigour, but acceded to the treaty of Bayonne, by which the destruction of the Protestants was determined. This measure filled the whole court with terror and dismay. The rebels were acquainted with the danger of their situation; and being now driven desperate, they were ready to engage in the most atrocious designs. Unhappily, the situation of affairs in Scotland rendered the accomplishment of their purposes but too easy. Violent disgusts had taken place between the queen and her husband. Her fondness had been excessive; but she soon perceived that the qualities of his mind were not proportioned to his personal accomplishments. He was proud, disdainful, and suspicious. No persuasions could correct his wilfulness; and he was at the same time giddy and obstinate, insolent and mean. The queen in consequence began to show an indifference towards him; which he took care to augment, by showing the like indifference towards her, and engaging in low intrigues and amours, indulging himself in dissipation and riot, &c. However, the desire of dominion was his ruling passion; and the queen, finding his total incapacity for exercising his power to any good purpose, had excluded him from it altogether. He was therefore at present a proper object for the machinations of the rebels, and readily entered into an agreement with them to depose the queen; vainly thinking by that means that he should secure the crown to himself. However, as the parliament was soon to assemble, in which the rebels had every reason to believe that they would be condemned for high treason, it was necessary that the kingdom should be thrown into disorder before that time came, otherwise their fate was inevitable. Practising on the imbecillity of Darnley, they persuaded him that a criminal correspondence subsisted between the queen and David Rizzio (R). For this reason the king resolved upon his destruction; and the conspirators hoped thereby not only to get an indemnity to themselves, but to effect a total revolution at court, and the entire humiliation of Bothwell, Huntley, and Athol, who were the associates of Rizzio. However, in order to save themselves,

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Mary ac-
cedes to the
treaty of
Bayonne.

646
Her Quarrels
between the
queen and
her hus-
band.

647
The king
conspires
the destruc-
tion of Da-
vid Rizzio,
with the re-
bellious
nobles.

(R) That there subsisted a criminal intercourse between Mary and Rizzio is a scandal which is now given up by her enemies. It seems to rest on the authority of Buchanan and Knox; and their evidence in this case is clearly of no weight, not only from their being the strenuous partizans of her adversaries, but from the multitude of falsehoods which they anxiously detail to calumniate her. The love she felt for Darnley was extreme, and their acquaintance commenced a month or two after the appointment of Rizzio to be her secretary for French affairs. She became pregnant soon after her marriage; and it was during her pregnancy that Rizzio was assassinated. These are striking presumptions in her favour. And what seems to put her innocence out of all question, is the silence of the spies and residents of Elizabeth with regard to this amour; for, if there had been any thing real in it, they could not have made their court to their queen more effectually than by declaring to her its peculiarities; and their want of delicacy, so observable in other circumstances, would have induced them upon this occasion to give the greatest foulness and deformity to their information.

It appears that Rizzio was ill-favoured, and of a disagreeable form. Buchanan says of him, "Non faciem cultus honestabat, sed facies cultum destruebat. Hist. Scot. lib. xvii. This expression is very strong; but it would have little weight if other authors had not concurred in giving a similar description of Rizzio. In a book intitled

Scotland. selves, they engaged the king to subscribe a bond, affirming that the project of assassinating Rizzio was altogether of his own devising; acknowledging that he had solicited them to take a part in it, from the apprehensions that resistance might be made to him; and agreeing, upon the word and honour of a prince, to protect and secure them against every hazard and injury to which they might be exposed from the achievement of his enterprise. Having procured this security, and having allured the earl of Lenox the king's father to approve their measures, they adjusted the method of the projected murder; and dispatched a messenger to the English frontier, advertising the earl of Murray and the rebels of their intentions, and inviting them to return to the court.

648
Rizzio
cruelly
murdered.

Upon the 9th day of March, about 7 o'clock in the evening, armed men, to the number of 500, surrounded the palace of Holyroodhouse. The earl of Morton and the Lord Lindsay entered the court of the palace, with 160 persons. The queen was in her chamber at supper, having in her presence her natural sister the countess of Argyle, her natural brother Robert commendator of Holyroodhouse, Beton of Creich master of the household, Arthur Erskine, and David Rizzio. The king entering the apartment, seated himself by her side. He was followed by the Lord Ruthven, who being wasted with sickness, and cased in armour, exhibited an appearance that was hideous and terrible. Four ruffians attended him. In a hollow voice he commanded Rizzio to leave a place which did not become him. The queen, in astonishment and consternation, applied to the king to unfold to her this mysterious enterprise. He affected ignorance. She ordered Ruthven from her presence, under the pain of treason; declaring to him at the same time, that if Rizzio had committed any crime, she would produce him before the parliament, and punish him according to the laws. Ruthven drawing his dagger, advanced towards Rizzio. The queen rose to make an exertion of her authority. The unfortunate stranger laid hold of her garments, crying out for justice and mercy. Other conspirators rushing into the chamber, overturned the table, and increased the dismay and confusion. Loaded pistols were presented to the bosom of the queen. The king held her in his arms. George Douglas, snatching the dagger of his sovereign, plunged it into the body of Rizzio. The wounded and screaming victim was dragged into the antichamber; and so eager were the assassins

to complete their work, that he was torn and mangled with 56 wounds. Scotland.

While the queen was pressing the king to gratify her inquiries into the meaning of a deed so execrable, Ruthven returned into their presence. She gave a full vent to indignation and reproach. Ruthven, with an intolerable coldness and deliberation, informed her, that Rizzio had been put to death by the counsel of her husband, whom he had dishonoured; and that by the persuasion of this minion she had refused the crown-matrimonial to the king, had engaged to re-establish the ancient religion, had resolved to punish the earl of Murray and his friends, and had entrusted her confidence to Bothwell and Huntley, who were traitors. The king, taking the part of Ruthven, remonstrated against her proceedings, and complained that from the time of her familiarity with Rizzio, she had neither regarded, nor entertained, nor trusted him. His suspicions and ingratitude shocked and tortured her. His connection with the conspirators gave her an ominous anxiety. Apprehensions of outrages still more atrocious invaded her. In these agitated and miserable moments she did not lose herself in the helplessness of sorrow. The loftiness of her spirit communicated relief to her; and wiping away her tears, she exclaimed, that it was not now a season for lamentation, but for revenge.

The earls of Huntley, Bothwell, and Athol, the lords Fleming and Levingston, and Sir James Balfour, who were obnoxious to the conspirators, and at this time in the palace, found all resistance to be vain. Some of them eluding the vigilance of Morton, made their escape; and others were allowed to retire. The provost and magistrates of Edinburgh getting intelligence of the tumult, ordered the alarm bell to be rung. The citizens, apprehensive and anxious, approached in crowds to inquire into the welfare of their sovereign; but she was not permitted to address herself to them. The conspirators told her, that if she presumed to make any harangue, they would "cut her in pieces, and cast her over the walls." The king called to the people that she was well, and commanded them to disperse. The queen was shut up in her chamber, uncertain of her fate, and without the consolation or attendance of her women.

649
The queen
confined.
and threat-
ened.

In the morning a proclamation was issued by the king, without the knowledge of his queen, prohibiting the meeting of the parliament, and ordering the members to retire from the city. The rebellious lords now returned

intituled, "Le Livre de la Morte de la Reyne d'Ecosse," and printed in the year 1587, he is said to be "disgracié de corps." Caussin, ap. Jebb, p. 37. This work, too, while it records the unkindness of nature to his person, has observed, that he was in his old age when he made a figure in the court of Mary. "Elle traittoit ordinairement avec David Riccio son secretaire, homme aagé et prudent, qui possedoit son oreille." Ibid. And other authors give their testimonies to the same purpose.

It is probable that the panegyrist of Mary exaggerate somewhat the imperfections as well as the good qualities of Rizzio. But there seems in general to be no reason to doubt his fidelity and talents, any more than his ugliness and senility. He had therefore a better title to be her secretary than her lover. It is an absurdity to think that a queen so young and beautiful would yield herself to deformity and old age. A common prostitute must be brought to endure this misfortune. The capacity of the man was a recommendation to him; and as he owed every thing to her bounty, and was a stranger, she had the greatest reason to rely upon his faithfulness. The perfidiousness and duplicity of her courtiers drew closer the tie of their connection; and as Rizzio was studious to make himself agreeable, and was skilful in games of hazard, he was always ready to be a party with her in those innocent amusements which fill up the listless intervals of life. Keith. Append. p. 124.

Scotland.

650
She endeavours in vain to gain the earl of Murray.

returned from England, and arrived at Edinburgh within 24 hours after the assassination of Rizzio. The queen, knowing of how much consequence it was for her to gain the earl of Murray, invited him to wait upon her. Notwithstanding the extreme provocation which she had met with, Mary so far commanded her passions, that she gave him a favourable reception. After informing him of the rudeness and severity of the treatment she had met with, the queen observed, that if he had remained in friendship with her at home, he would have protected her against such excesses of hardship and insult. Murray, with an hypocritical compassion, shed abundance of tears; while the queen seemed to entertain no doubt of his sincerity, but gave him room to hope for a full pardon of all his offences. In the mean time, however, the conspirators held frequent consultations together, in which it was debated, whether they should hold the queen in perpetual captivity, or put her to death; or whether they should content themselves with committing her to close custody in Stirling castle till they should obtain a parliamentary sanction to their proceedings, establish the Protestant religion by the total overthrow of the mass, and invest the king with the crown-matrimonial and the government of the kingdom.

651
But prevails on the king to abandon the cause of the conspirators.

Mary now began to perceive the full extent of her wretchedness; and therefore, as her last resource, applied to the king, whom she treated with all those blandishments usually employed by the fair sex when they want to gain the ascendancy over the other. The king, who, with all his faults, had a natural facility of temper, was easily gained over. The conspirators were alarmed at his coldness, and endeavoured to fill his mind with fears concerning the duplicity of his wife; but, finding they could not gain their point, they at last began to treat of an accommodation. The king brought them a message, importing, that Mary was disposed to bury in oblivion all memory of their transgressions; and he offered to conduct them into her presence. The earls of Murray and Morton, with the lord Ruthven, attended him into her presence; and, falling on their knees before the queen, made their apologies and submissions. She commanded them to rise; and having desired them to recollect her abhorrence of cruelty and rapaciousness, she assured them with a gracious air, that instead of designing to forfeit their lives, and possess herself of their estates, she was inclined to receive them into favour, and to give a full pardon, not only to the nobles who had come from England, but to those who had assassinated David Rizzio. They were accordingly ordered to prepare the bonds for their security and forgiveness, which the queen promised to take the earliest opportunity of subscribing; but in the mean time the king observed, that the conspirators ought to remove the guards which they had placed around the queen, that all suspicion of restraint might be taken away. This measure could not with any propriety be opposed, and the guards were therefore dismissed; upon which the queen, that very night, left her palace at midnight, and took the road to Dunbar, accompanied by the king and a few attendants.

652
And escapes from them.

The news of the queen's escape threw the conspirators into the utmost consternation; as she immediately issued proclamations for her subjects to attend her in arms, and was powerfully supported. They sent there-

fore the lord Semple, requesting, with the utmost humility, her subscription to their deeds of pardon and security; but to this message she returned an unfavourable answer, and advanced towards Edinburgh with an army of 8000 men. The conspirators now fled with the utmost precipitation. Even John Knox retired to Kyle till the storm should blow over. On the queen's arrival at Edinburgh, a privy council was instantly called, in which the conspirators were charged to appear as guilty of murder and treason; their places of strength were ordered to be rendered up to the officers of the crown; and their estates and possessions were made liable to confiscation and forfeiture.

Scotland.

653
The rebellious nobles are declared traitors.

But while the queen was thus eager to punish the conspirators, she was sensible that so many of the nobility, by uniting in a common cause, might raise a powerful party in opposition to her; for which reason she endeavoured to detach the earl of Murray from the rest, by making him offers of pardon. Sir James Melvil accordingly pledged himself to produce his pardon and that of his adherents, if he would separate from Morton and the conspirators. He accordingly became cold and distant to them, and exclaimed against the murder as a most execrable action; but notwithstanding his affected anger, when the conspirators fled to England, he furnished them with letters of recommendation to the earl of Bedford. After the flight of the conspirators, the king thought it necessary for him to deny his having any share in the action. He therefore embraced an opportunity of declaring to the privy council his total ignorance of the conspiracy against Rizzio; and not satisfied with this, he, by public proclamations at the market-place of his capital, and over the whole kingdom, protested to the people at large that he had never bestowed upon it, in any degree, the sanction of his command, consent, assistance, or approbation.

654
Shameful prevarication of the king.

In the mean time the queen granted a full and ample pardon to the earls of Murray, Argyle, Glencairn, and Rothes, and their adherents; but towards the conspirators she remained inexorable. This lenity, to Murray especially, proved a source of the greatest inquietude to the queen; for this nobleman, blind to every motive of action distinct from his own ambition, began to contrive new plots, which, though disappointed for a time, soon operated to the destruction of the queen, and almost to the ruin of the nation.

655

Murray and some others of the rebels are pardoned.

In 1566, the queen was delivered of a prince, who received the name of *James*. This happy event, however, did not extinguish the quarrel betwixt her and the king. His desire to intrude himself into her authority, and to fix a stain upon her honour, his share in the murder of Rizzio, and his extreme meanness in publicly denying it afterwards, could not fail to impress her with the strongest sentiments of detestation and contempt. Unable, however, totally to divest herself of regard for him, her behaviour, though cold and distant, was yet decent and respectful. Castelnau, at this time ambassador extraordinary from France, conceived that a reconciliation might be effected, and employed himself some time in this friendly office. Nor were his endeavours altogether ineffectual. The king and queen spent two nights together; and proceeded, in company with each other, to Meggatland in Tweeddale, in order to enjoy the diversion of the chase, attended by the earls of Huntley, Bothwell, Murray, and other nobles. From

656
Birth of James VI.

657
A partial reconciliation between the king and queen.

thence

Scotland.

658
Which is
broken off
by the
king's im-
prudent be-
haviour.

thence they passed to Edinburgh, and then took the road to Stirling. Had the king been endowed with any prudence, he would have made the best use of this opportunity to have regained the affections of his queen; but, instead of this, finding that he was not immediately intrusted with power, his peevishness suggested to him a design of going abroad. To Monsieur du Croc, the French resident, who had attended Mary at Stirling, he ventured to communicate his chimerical project. This statesman represented to him its wildness and inefficacy; and could hardly believe that he was serious. To his father the earl of Lenox, who paid him a visit at this place immediately upon Mary's departure from it, he likewise communicated his intention; and all the intreaties, arguments, and remonstrances of this nobleman to make him drop his design, were without success. He provided a vessel, and kept it in readiness to carry him from his dominions. The earl of Lenox, after returning to Glasgow, where he usually resided, gave way to his paternal anxieties, and solicited the queen by letter to interfere with her authority and persuasions; and upon the evening of the day in which she received this dispatch, the king alighted at Holyroodhouse. But the names of the nobles who were with the queen being announced to him, he objected to three of them, and insisted that they should be ordered to depart, before he would enter within the gates of the palace. The queen, alarmed with a demeanour so rude and so unwarrantable, condescended to leave her company and her palace to meet him; and it was with great difficulty that she was able to entice him into her own apartment. There he remained with her during the night. She communicated to him his father's letter, and employed every art and blandishment to engage him to explain his perverse design. But he gave her no return or satisfaction. He was unmoved with her kindness; and his silence, dejection, and peevishness, augmented her distress. In the morning, she called her privy council to assemble in the palace, and invited to her Monsieur du Croc the French envoy. By the bishop of Ross she explained the intention of the king, and made known the dispatch of the earl of Lenox. The privy council were urgent to know the reasons of a voyage that appeared to them so inexplicable; and earnestly pressed the king to unbosom himself. If his resolution proceeded from discontent, and if there were persons in the kingdom who had given him causes of offence, they assured him, that they were ready, upon his information, to take the necessary steps to make him easy and happy. No quality or rank should exempt those from inquiry and punishment who had committed misdemeanors against him. This, they said, consisted with his honour, with the honour of the queen, and with their own. If, however, he had received no sufficient provocation to justify his behaviour, and if he had no title to complain of actual injuries, they admonished him to remember, that his flight from a queen so beautiful, and from a kingdom so ancient and noble, would expose him to the greatest ridicule and disgrace. They pointed out the happiness of his fortune, and counselled him not to part lightly with all its flattering advantages. The queen herself, taking his hand into her's, and pressing it with affection, besought him to say by what act or deed she had unfortunately induced him to conceive so fatal a purpose. Her memory did

not reproach her with any crime or indiscretion which affected his honour or her integrity: yet if, without any design upon her part, she had incurred his displeasure, she was disposed to atone for it; and she begged him to speak with entire freedom, and not in any degree to spare her. Monsieur du Croc then addressed him, and employed his interest and persuasions to make him reveal his inquietudes. But all this respectful attention and ceremonious duty were ineffectual. Obstinate and froward, he refused to confess that he intended any voyage, and made no mention of any reasons of discontent. He yet acknowledged with readiness, that he could not with justice accuse the queen of any injury or offence. Oppressed with uneasiness and perturbation, he prepared to retire; and, turning to her, said, "Adieu, Madam! you shall not see me for a long time." He then bowed to the French envoy, and to the lords of the privy council.

He hastened back to Stirling, leaving the queen and her council in surprise and astonishment. They resolved to watch his motions with anxiety, and could not conjecture what step he would take. Mary, to prevent the effect of rumours to her disadvantage, dispatched a courier to advertise the king of France and the queen-mother of his conduct. It was not possible that a prince so meanly endowed with ability could make any impression upon her allies. Nor did it appear to be in his power to excite any domestic insurrection or disturbance. He was universally odious; and, at this time, the queen was in the highest estimation with the great body of her subjects. After passing some days at Stirling, he addressed a letter to the queen, in which, after hinting at his design of going abroad, he insinuated his reasons of complaint. He was not trusted by her with authority, and she was no longer studious to advance him to honour. He was without attendants; and the nobility had deserted him. Her answer was sensible and temperate. She called to his remembrance the distinctions she had conferred upon him, the uses to which he had put the credit and reputation accruing from them, and the heinous offences he had encouraged in her subjects. Though the plotters against Rizzio had represented him as the leader of their enterprize, she had yet abstained from any accusation of him, and had even behaved as if she believed not his participation in the guilt of that project. As to the defects of his retinue, she had uniformly offered him the attendance of her own servants. As to the nobility, they were the supports of the throne, and independent of it. Their countenance was not to be commanded, but won. He had discovered too much stateliness to them; and they were the proper judges of the deportment that became them. If he wished for consequence, it was his duty to pay them court and attention; and whenever he should procure and conciliate their regard and commendation, she would be happy to give him all the importance that belonged to him.

In the mean time, the earls of Murray and Bothwell were industriously striving to widen the breach between the king and queen, and at the same time to foment the division between the king and his nobles. The earl of Morton excited disturbances on the borders; and as no settled peace had taken place there since Mary's marriage, there was the greatest reason to believe that he would succeed in his attempts. Proclamations.

Scotland.

Scotland.

659
Mary falls
sick, but
recovers.

clamations were therefore issued by the queen to call her subjects to arms; and she proceeded to Jedburgh, to hold justice-courts, and to punish traitors and disorderly persons. In the course of this journey she was taken dangerously ill; inasmuch that, believing her death to be at hand, she called for the bishop of Ross, telling him to bear witness, that she had persevered in that religion in which she had been nourished and brought up; taking the promise of her nobles, that after her death they would open her last will and testament, and pay the respect to it that consisted with the laws; recommending to them the rights of her infant son, and the charge of educating him in such a manner as might enable him to rule the kingdom of his ancestors with honour; and intreating them to abstain from all cruelty and persecution of her Roman Catholic subjects. Notwithstanding her apprehensions, however, and the extreme violence of her distemper, the queen at last recovered perfect health. As soon as she was able to travel, she visited Kelso, Werk castle, Hume, Langton, and Wedderburn. The licentious borderers, on the first news of her recovery, laid down their arms. Being desirous to take a view of Berwick, the queen advanced to it with an attendance of 1000 horse. Sir John Forster, the deputy warden of the English marches, came forth with a numerous retinue, and conducted her to the most proper station for surveying it, and paid her all the honours in his power, by a full discharge of the artillery, and other demonstrations of joy. Continuing her journey, she passed to Eymouth, Dunbar, and Tantallon; proceeding thence to Craigmillar castle, where she proposed to remain till the time of the baptism of the prince, which was soon to be celebrated at Stirling.

660
Unkindness
of the king.

During the severe sickness of the queen, her husband kept himself at a distance: but when she was so far recovered as to be out of danger, he made his appearance; and being received with some coldness and formality, he retired suddenly to Stirling. This cruel neglect was a most sensible mortification to her; and while she suffered from his ingratitude and haughtiness, she was not without suspicions that he was attempting to disturb the tranquillity of her government. She was seized with a settled melancholy; and, in her anguish, often wished for death to put a period to her existence. Her nobles, who were caballing against her, remarked her condition, and took advantage of it. Bothwell, who had already recommended himself by his services, redoubled his efforts to heighten the favour which these services had induced her to conceive for him. At this time, it is probable, he sought to gain the affection of the queen, with a view to marry her himself, providing a divorce from her husband could be obtained, which was now become the subject of consultation by Murray and his associates. After much deliberation, the queen herself was acquainted with this project; and it was told her, that provided she would pardon the earl of Morton and his associates, the means should be found of effectuating the divorce. This was urged as a matter of state by the earls of Murray, Lethington, Argyle, and Huntley; and the queen was invited to consider it as an affair which might be managed without any interference on her part. The queen replied, that she would listen to them, upon condition that the divorce could be ob-

661
A divorce
is proposed.

tained according to the laws, and that it should not be any way prejudicial to her son: but if they meant to operate their purpose by a disregard to these points, they must not think any more of it; for rather than consent to their views, she would endure all the torments, and abide by all the perils, to which her situation exposed her.

Lethington upon this, in the name of the rest, engaged to make her quit of her husband, without prejudice to her son; words which could not be understood otherwise than as pointing at murder. Lord Murray (added he), who is here present, scrupulous as he is, will connive; and behold our proceedings without opening his lips. The queen immediately made answer, "I desire that you will do nothing from which any stain may be fixed upon my honour or conscience; and I therefore require the matter to rest as it is, till God of his goodness send relief: What you think to be of service to me may turn out to my displeasure and harm."

It appears, however, that from this moment a plot was formed by Murray, Bothwell, and Lethington, against the life of Darnley, and by some of them probably against the queen herself; and that Morton, who with the other conspirators against Rizzio had received a pardon, was closely associated with them in their nefarious designs. That profligate peer was, in his way to Scotland, met at Whittingham by Bothwell and the secretary. They proposed to him the murder of the king, and required his assistance, alleging that the queen herself consented to the deed; to which Morton by his own account replied, that he was disposed to concur, provided he were sure of acting under any authority from her; but Bothwell and Lethington having returned to Edinburgh, on purpose to obtain such an authority, sent him back a message, That the queen would not permit any conversation upon that matter.

In the mean time, preparations were made for the baptism of the young prince; to assist at which the queen left Craigmillar and went to Stirling. The ceremony was performed on the 17th of December 1566. After the baptismal rites were performed, the name and titles of the prince were three times proclaimed by the heralds to the sound of trumpets. He was called and designed, Charles James, James Charles, prince and Steward of Scotland, duke of Rothsay, earl of Carrick, lord of the Isles, and baron of Renfrew. Amidst the scenes of joy displayed on this occasion, the king showed his folly more than he had done before. As Elizabeth did not mean to acknowledge him in his sovereign capacity, it was neither consistent with the dignity of the queen, nor his own, that he should be present at the baptism. He did not indeed present himself either at the ceremony or the entertainments and masquerades with which it was accompanied. At this juncture, however, though he had often kept at a greater distance before, he took up his residence at Stirling, as if he had meant to offend the queen, and to expose their quarrels to the world. Du Croc, who was inclined to be favourable to him, was so struck with the impropriety of his behaviour, that he affected to have instructions from France to avoid all intercourse with him: and when the king proposed to pay him a visit, he took the liberty to inform him, that there were two passages in his chamber; and that if his

Scotland.

662
Absurd be-
haviour of
the king.

Scotland. majesty should enter by the one, he should be constrained to go out by the other.

While he resided at Stirling, the king chiefly confined himself to his chamber. His strange behaviour to the queen did not give the public any favourable idea of him; and as the earl of Murray and his faction took care to augment the general odium, no court was paid to him by foreign ambassadors. His situation, therefore, was exceedingly uncomfortable; but though he must have been conscious of his imprudence and folly, he did not alter his conduct. In a sullen humour he left Stirling, and proceeded to Glasgow. Here he fell sick, with such symptoms as seemed to indicate poison. He was tormented with violent pains, and his body was all covered over with pustules of a bluish colour; so that his death was daily expected. Mary did not repay his coldness to her by negligence. She set out immediately for Glasgow, and waited on him with all the assiduity of an affectionate wife, until he recovered: after which she returned with him to Edinburgh; and as the low situation of the palace of Holyroodhouse was thought to render it unhealthy, the king was lodged in a house which had been appointed for the superior of the church, called *St Mary's in the Fields*. This house stood upon an high ground, and in a salubrious air; and here she staid with him some days. — Here the conspirators thought proper to finish their plot in the most execrable manner. On the 10th of February 1567, about two o'clock in the morning, the house where the king resided was blown up by gunpowder. The explosion alarming the inhabitants, excited a general curiosity, and brought multitudes to the place from whence it proceeded. The king was found dead and naked in an adjoining field, with a servant who used to sleep in the same apartment with him. On neither was there any mark of fire or other external injury.

The queen was in the palace of Holyroodhouse, taking the diversion of a masked ball, which was given to honour the marriage of a favourite domestic, when the news of the king's death was brought to her. She showed the utmost grief, and appeared exasperated to the last degree against the perpetrators of a deed at once so shocking and barbarous. The most express and peremptory orders were given to inquire after the perpetrators by every possible method. A proclamation was issued by the privy-council, assuring the people, that the queen and nobility would leave nothing undone to discover the murderers of the king. It offered the sum of 2000 l. and an annuity for life, to any person who should give information of the devisers, counsellors, and perpetrators of the murder; and it held out this reward, and the promise of a full pardon, to the conspirator who should make a free confession of his own guilt, and that of the confederates. On the fourth day after this proclamation was published, a placard was affixed to the gate of the city-prison, affirming, that the earl of Bothwell, James Balfour, David Chalmers, and black John Spence, were the murderers. No name, however, was subscribed to this intelligence, nor was any demand made for the proffered reward; so that it was difficult to know whether this advertisement had been dictated by a spirit of calumny or the love of justice.

In the mean time, the earl of Murray conducted

himself with his usual circumspection and artifice. Upon a pretence that his wife was dangerously sick at his castle in Fife, he, the day before the murder, obtained the queen's permission to pay a visit to her. By this means he proposed to prevent all suspicion whatever of his guilt. He was so full, however, of the intended project, that while he was proceeding on his journey, he observed to the person who accompanied him, "This night, before morning, the lord Darnley shall lose his life." When the blow was struck, he returned to Edinburgh to carry on his practices. Among foreign nations, the domestic disputes of the queen and her husband being fully known, it was with the greater ease that reports could be propagated to her disadvantage. To France letters were dispatched, expressing, in fervent terms, her participation in the murder. In England, the ministers and courtiers of Elizabeth could not flatter that princess more agreeably, than by industriously detracting from the honour and the virtue of the Scottish queen. Within her own dominions a similar spirit of outrage exerted itself, and not without success. As her reconciliation with her husband could not be unknown to her own subjects, it was interpreted to be dissimulation and treachery. The Protestant clergy, who were her most determined enemies, possessed a leading direction among the populace; and they were the friends and the partizans of the earl of Murray. Open declamations from the pulpit were made against Bothwell, and strong insinuations and biting surmises were thrown out against the queen. Papers were dispersed, making her a party with Bothwell in the murder. Every art was employed to provoke the frenzy of the people. Voices, interrupting the silence of the night, proclaimed the infamy of Bothwell; and portraits of the regicides were circulated over the kingdom.

The queen's determination, however, to scrutinize into the matter was unabated; and to the earl of Lennox, the king's father, she paid an attention which he could only have expected from her upon an emergency of this kind. Having pressed her by letter to the most diligent inquiry after the regicides, she returned an answer so completely to his wishes, that he was fully convinced of the sincerity and rigour with which she intended to proceed against them: and he urged her to assemble the three estates, that their advice might direct the order and manner of their trial. She wrote to him, that an assembly of the estates was already proclaimed; and that it was her earnest and determined will and purpose, that no step should be neglected that could conduce to the advancement and execution of justice. Yielding to his anxieties, he addressed her anew, intreating that the trial might not be delayed; observing, that it was not a matter of parliamentary inquiry; advising, that it would be more proper to proceed to it with the greatest expedition; and urging her to commit to prison all the persons who had been named and described in the papers and placards which had been set up in the public places of the city. The queen informed him, that although she had thought it expedient to call a meeting of the parliament at this juncture, it was not her meaning that the proceedings against the regicides should be delayed till it was actually assembled. As to the placards and papers to which he alluded, they were so numerous and contradictory,

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Scotland,
666
Strong pre-
sumption
of the guilt
of the earl
of Murray.

667
He accuses
the queen.

668
The queen
determines
to find out
and punish
the mur-
derers.

663
He falls
sick,

664
And is
murdered.

665
Attempts
to discover
the mur-
derers.

Scotland. that she could not well determine upon which to act: but if he would condescend to mention the names which, in his opinion, were most suspicious, she would instantly command that those steps should be taken which the laws directed and authorised. He in return named the earl of Bothwell, James Balfour, David Chalmers, black 669
Lenox ac-
cuses sever-
al persons, John Spence, Francis Sebastian, John de Burdeaux, and Joseph the brother of David Rizzio; and assured her majesty, that his suspicions of these persons were weighty and strong. In reply to his information, Mary gave him her solemn promise, that the persons he had pointed out should abide and undergo their trial in conformity to the laws, and that they should be punished according to the measure of their guilt: and she invited him to leave immediately his retirement, and to meet her at her court, that he might witness the proceedings against them, and the zeal with which she was animated to perform the part that became her.

While the queen carried on this correspondence with the earl of Lenox, she resided partly at the palace of the lord Seton, at the distance of a few miles from her capital, and partly at Holyroodhouse. By the time that she sent her invitation to him, she was residing in her capital. She delayed not to confer with her counsellors, and to lay before them the letters of the earl of Lenox. Bothwell was earnest in his protestations of innocence; and he even expressed his wish for a trial, that he might establish his integrity. No facts pointed to his guilt; there had appeared no accuser but the earl of Lenox; and no witnesses had been found who could establish his criminality. Her privy-council seemed to her to be firmly persuaded that he was suffering under the malice of defamation. Murray, Morton, and Lethington, whatever might be their private machinations, were publicly his most strenuous defenders; and they explained the behaviour of the earl of Lenox to be the effect of hatred and jealousy against a nobleman who had outrun him so far in the career of ambition. But though all the arts of Murray and Bothwell, Morton and Lethington, were exerted to their utmost extent to mislead the queen, they were not able to withhold her from adopting the strain of conduct which was the most proper and the most honourable to her. It was her own ardent desire that the regicides should be punished; she had given her solemn promise to the earl of Lenox, that the persons whom he suspected should be prosecuted; and amidst all the appearances in favour of Bothwell, and all the influence employed to serve him, it is to be regarded as a striking proof of her honour, vigour, and ability, that she could accomplish this measure. An order, accordingly, of the privy-council was made, which directed, that the earl of Bothwell, and all the persons named by Lenox, should be brought to trial for the murder of the king, and that the laws of the land should be carried into full execution. The 12th of April was appointed for the trial. A general invitation was given to all persons whatsoever to prefer their accusations. The earl of Lenox was formally cited to do himself justice, by appearing in the high court of justiciary, and by coming forward to make known the guilt of the culprits.

670
And is in-
vited to
prove his
accusations.

In the mean time, it was proper to repress that spirit of outrage that had manifested itself against the

queen. No discoveries, however, were made, except Scotland. against James Murray, brother to Sir William Murray of Tullibardin, who at different times had published placards injurious to her. He was charged to appear before the privy-council: but refusing to obey its citation, it was made a capital offence for any commander of a vessel to convey him out of the kingdom; and the resolution was taken to punish him with an exemplary severity. Effecting, however, his escape, he avoided the punishment due to his repeated and detestable acts of calumny and treason.

The day for the trial of Bothwell approached. The conspirators, notwithstanding their power, were not without apprehensions. Their preparations, however, for their safety had been anxious; and, among other practices, they neglected not to attempt to throw a 671
He is inti-
midated, panic into the earl of Lenox. They were favoured by his consciousness of his unpopularity, and his want of strength, by his timidity and his spirit of jealousy. Suspicions of the queen's guilt were insinuated into him; and the dangers to which he might be exposed by insisting on the trial were set before him in the strongest colours. He was sensible of her aversion to him; and his weakness and the sovereign authority were contrasted. His friends concurred with his enemies to intimidate him, from the spirit of flattery, or from a real belief that his situation was critical. By the time he had reached Stirling, in his way to Edinburgh, his fears predominated. He made a full stop. 672
And wishes
to defer the
trial; He was no longer in haste to proceed against the regicides. He addressed a letter to the queen, in which he said he had fallen into such sickness, that he could not travel; and he affirmed, that he had not time to prepare for the trial and to assemble his friends. He complained, too, that Bothwell and his accomplices had not been committed to custody; he insisted, that this step should be taken; and he requested, that a day at a greater distance might be appointed for the trial. After the lengths to which matters had gone, this conduct was most improper; and it is only to be accounted for from terror or capriciousness. His indisposition was affected; he had been invited by Mary to wait upon her at Edinburgh at an early period, to concert his measures; and the delay he asked was in strong contradiction to his former intreaties. After the invitation sent to him, he might have relied with safety upon the protection of the queen, without any gathering of his friends; from the time of her private intimation to him, and of the legal citations of her officers, there had passed a period more than sufficient for the purpose of calling them together; and indeed to suppose that there was any necessity for their assistance, was an insult to government, and a matter of high indecency. There was more justice in the complaint, that the earl of Bothwell and his accomplices had not been taken into custody; and yet even in this peculiarity, he was himself to blame in a great degree. For he had not observed the precaution of that previous display of evidence, known in the Scottish law under the term of a precognition, which is common in all the grosser offences, and which the weighty circumstances of the present case rendered so necessary as a foundation for the confinement and conviction of the criminals.

An

Scotland.
673
But his pe-
tition is re-
fused.

An application for the delay of a trial so important, upon the night immediately preceding the day stated for it, and reciting reasons of no conclusive force, could not with propriety be attended to. The privy-council refused the demand of the earl of Lenox. The court of justiciary was assembled. The earl of Argyle acted in his character of lord high justiciar; and was aided by four assessors, Robert Pitcairn, commendator of Dunfermline, and the lord Lindsay, with Mr James Macgill and Mr Henry Balnaves, two lords of the session. The indictment was read, and the earls of Bothwel and Lennox were called upon; the one as the defender, the other as the accuser. Bothwel, who had come to the court with an attendance of his vassals, and a band of mercenary soldiers, did not fail to present himself: but Lenox appeared only by his servant Robert Cunyngham; who, after apologizing for his absence, from the shortness of the time, and the want of the presence of his friends, desired that a new day should be appointed for the trial; and protested, that if the jury should now enter upon the business, they should incur the guilt of a wilful error, and their verdict be of no force or authority.

674
Bothwel
acquitted.

This remonstrance and protestation appeared not to the court of sufficient importance to interrupt the trial. They paid a greater respect to the letters of the earl of Lenox to the queen insisting upon an immediate prosecution, and to the order of the privy-council consequent upon them. The jury, who consisted of men of rank and condition, after considering and reasoning upon the indictment for a considerable time, were unanimous in acquitting Bothwel of all share and knowledge of the king's murder. The machinations however of Morton, which we have mentioned in the life of MARY, were so apparent, that the earl of Caithness, the chancellor of the assize, made a declaration in their name and his own, that no wilful error ought to be imputed to them for their verdict; no proof, vouchers, or evidence, to confirm or support the criminal charge having been submitted to them. At the same time, he offered a protestation for himself, that there was a mistake in the indictment, the 9th day of February instead of the 10th being expressed in it as the date of the murder. It is not to be doubted, but that this flaw in the indictment was a matter of design, and with a view to the advantage of Bothwel, if the earl of Lenox had made his appearance against him. And it has been remarked as most indecent and suspicious, that soldiers in arms should have accompanied him to the court of justice; that during the trial, the earl of Morton stood by his side to give him countenance and to assist him; and that the four assessors to the chief justiciar were warm and strenuous friends to the earl of Murray.

Immediately after his trial, Bothwel set up in a conspicuous place a writing, subscribed by him, challenging to single combat, any person of equal rank with himself, who should dare to affirm that he was guilty of the king's murder. To this challenge an answer was published, in which the defiance was accepted, upon the condition that security should be given for a fair and equal conflict; but no name being subscribed to this paper, it was not understood to correspond with the law of arms; and of consequence no step was

taken for the fighting of the duel. Two days after the parliament met, and there the party of Bothwel appeared equally formidable. The verdict in his favour was allowed to be true and just. He was continued in his high offices; and obtained a parliamentary ratification of the place of keeper of Dunbar castle, with the estates in connection with it; and other favours were conferred upon Murray, with the rest of the nobles suspected as accomplices in the murder.

A very short time after the final acquitment of Bothwel, he began to give a greater loose to his ambition, and conceived hopes of gaining the queen in marriage. It has been already remarked, that he had insidiously endeavoured to gain her affection during the lifetime of her husband; but though he might have succeeded in this, the recent death of the king in such a shocking manner, and the strong suspicions which must necessarily still rest upon him, notwithstanding the trial he had undergone, necessarily prevented him from making his addresses openly to her. He therefore endeavoured to gain the nobility over to his side; which having done one by one, by means of great promises, he invited them to an entertainment, where they agreed to ratify a deed pointing him out to the queen as a person worthy of her hand, and expressing their resolute determination to support him in his pretensions. This extraordinary bond was accordingly executed; and Murray's name was the first in the list of subscribers, in order to decoy others to sign after him; but that he might appear innocent of what he knew was to follow, he had, before any use was made of the bond, asked and obtained the queen's permission to go to France. In his way thither he visited the court of Elizabeth, where he did not fail to confirm all the reports which had arisen to the disadvantage of Mary; and he now circulated the intelligence that she was soon to be married to Bothwel. Her partizans in England were exceedingly alarmed; and even queen Elizabeth herself addressed a letter to her, in which she cautioned her not to afford such a mischievous handle to the malice of her enemies.

Mary, upon the dissolution of the parliament, had gone to Stirling to visit the young prince. Bothwel, armed with the bond of the nobles, assembled 1000 horse, under the pretence of protecting the borders, of which he was the warden; and meeting her upon her return to her capital, dismissed her attendants, and carried her to his castle of Dunbar. The arts which he used there to effect the accomplishment of his wishes we have mentioned under another article, (see MARY). But having been married only six months before to Lady Jane Gordon, sister to the earl of Huntley, it was necessary to procure a divorce before he could marry the queen. This was easily obtained. The parties were cousins within the prohibited degrees, and had not obtained a dispensation from Rome. Their marriage, therefore, in the opinion of the queen and her Roman Catholic subjects, was illicit, and a profane mockery of the sacrament of the church. The husband had also been unfaithful; so that two actions of divorce were instituted. The lady commenced a suit against him in the court of the commissaries, charging him as guilty of adultery with one of her maids. The earl himself brought a suit against his wife before the court of the archbishop of St Andrew's, upon the plea of consanguinity.

Scotland.

675
He aspires
at a mar-
riage with
the queen.

676
Is recom-
mended by
the nobility
as a proper
husband for
her.

677
Schemes of
the earl of
Murray to
hurt the
queen.

678
Bothwel
carries her
off to Dun-
bar.

679
Is divorced
from his
wife.

Scotland.

guinity. By both courts their marriage was decided to be void; and thus two sentences of divorce were pronounced.

Bothwel now conducted the queen from Dunbar to her capital. But instead of attending her to her palace of Holyrood-house, his jealousy and apprehensions induced him to lodge her in the castle of Edinburgh, where he could hold her in security against any attempt of his enemies. To give satisfaction, however, to her people, and to convince them that she was no longer a prisoner, a public declaration upon her part appeared to be a measure of expediency. She presented herself, therefore, in the court of session; the lords chancellor and president, the judges, and other persons of distinction, being present. After observing that some stop had been put to the administration of justice upon account of her being detained at Dunbar against her will by the lord Bothwel, she declared, that though she had been highly offended with the outrage offered to her, she was yet inclined to forget it. His courteousness, the sense she entertained of his past services to the state, and the hope with which she was impressed of his zeal and activity for the future, compelled her to give him and his accomplices in her imprisonment a full and complete pardon. She at the same time desired them to take notice, that she was now at her freedom and liberty; and that she proposed, in consideration of his merits, to take an early opportunity of promoting him to new and distinguished honours.

680
Banns of
the mar-
riage pro-
claimed.

It was understood that the queen was immediately to advance him to be her husband. The order was given for the proclamation of the banns; and Mr John Craig, one of the ministers of Edinburgh, was desired to perform this business. But though the order was subscribed by the queen, he refused absolutely his compliance without the authority of the church. The brethren, after long reasonings, granted him permission to discharge this duty. His scruples, notwithstanding, and delicacy, were not yet removed. He protested, that, in obeying their desire, he should be allowed to speak his own sentiments concerning the marriage, and that his publishing the banns should infer no obligation in him to officiate in the solemnity. In his congregation, accordingly, before a crowded audience, and in the presence of several noblemen and privy-counsellors, he declared that the marriage of the queen and the earl of Bothwel was unlawful, and that he was prepared to give his reasons for this opinion to the parties themselves. He added, that if leave to do this was denied him, he would either abstain altogether from proclaiming the banns, or take the liberty, after proclaiming them, to inform his people of the causes of his disapprobation of the marriage. He was carried before the lords of the privy-council; and the earl of Bothwel called upon him to explain his behaviour. He answered, that the church had prohibited the marriage of per-

681
Fortitude
of Mr John
Craig.

sons separated for adultery; and that the divorce between him and his wife must have been owing to collusion; since the sentence had been given with precipitation, and since his new contract was so sudden; and he objected to him the abduction and ravishment of the queen, and the suspicion of his guilt in the king's murder. This bold language drew no reply from Bothwel that was satisfactory to Mr Craig, or that could intimidate him. He proclaimed in his church the banns of the marriage; but he told the congregation, that he discharged the suggestions of his conscience in pronouncing it to be a detestable and scandalous engagement. He expressed the sorrow he felt for the conduct of the nobility, who seemed to approve it from their flattery or silence; and addressing himself to the faithful, he besought them to pray to the Almighty that he would turn a resolution intended against law, reason, and religion, into a comfort and benefit to the church and the kingdom. These freedoms were too great to pass unnoticed. Mr Craig was ordered anew to attend the privy-council; and he was reprimanded with severity for exceeding the bounds of his commission. He had the courage to defend himself. His commission, he said, was founded in the word of God, positive law, and natural reason; and upon the foundation of these topics he was about to prove that the marriage must be universally foul and odious, when the earl of Bothwel commanded him to be silent. The privy-council, struck with the vigour of the man, and apprehensive of the public discontents, did not dare to inflict any punishment upon him; and this victory over Bothwel, while it heightened all the suspicions against him, served to encourage the enemies of the queen, and to undermine the respect of her subjects.

Mary, before she rendered her hand to Bothwel, created him duke of Orkney. The ceremony was performed in a private manner, after the rules of the Popish church; but, to gratify the people, it was likewise solemnized publicly according to the Protestant rites by Adam Bothwel bishop of Orkney, an ecclesiastic who had renounced the Episcopal order for the reformation. It was celebrated with little pomp and festivity. Many of the nobles had retired to their seats in the country; and those who attended were thoughtful and sad. Du Croc, the French ambassador, sensible that the match would be displeasing to his court, refused to give his countenance to the solemnity. There were no acclamations of the common people. Mary herself was not unconscious of the imprudence of the choice she had made, and looked back with surprise and sorrow to the train of circumstances which had conducted her to this fatal event. Forsaken by her nobles, and imprisoned at Dunbar, she was in so perilous a situation that no remedy could save her honour but death. Her marriage was the immediate and necessary consequence of that situation (s). It was the point.

682

The mar-
riage cele-
brated.

(s) "The queen (says Melvil) could not but marry him; seeing he had ravished her and lain with her against her will." *Memoirs*, p. 159. In the following passage, from a writer of great authority, in our history, this topic is touched with no less exactness, but with greater delicacy. After Mary had remained a fortnight under the power of a daring profligate adventurer, says Lord Hailes, few foreign princes would have solicited her hand.

Scotland. point for which her enemies had laboured with a wicked and relentless policy.

683
Bothwel
attempts to
get the
young
prince in-
to his
power.

684
Murray ca-
lumniate
the queen.

Mary was unfortunate in her second marriage, but much more so in her third. Bothwel had neither talents for business nor affection for his wife. Ambitious and jealous to the last degree, he sought only to establish himself in power, while his fears and jealousies made him take the most improper means. The marriage had already thrown the nation into a ferment; and the least improper exercise of power, or indeed an appearance of it, even on the part of the queen, would be sufficient to ruin them both for ever. Perhaps the only thing which at this juncture could have pacified the people, would have been the total abolition of Popery, which they had often required. But this was not thought of. Instead of taking any step to please the people, Bothwel endeavoured to force the earl of Marre to deliver up the young prince to his custody.— This was sufficient to make the flame, which had hitherto been smothered, break out with all its violence. It was universally believed that Bothwel, who had been the murderer of the father, designed to take away the life of the son also, and the queen was thought to participate in all his crimes. The earl of Murray now took advantage of the queen's unfortunate situation to aggrandise himself and effect her ruin. After having visited the English court, he proceeded to France, where he assiduously disseminated all the reports against the queen which were injurious to her reputation; and where, without being exposed to suspicion, he was able to maintain a close correspondence with his friends Morton and Lethington, and to inspire their machinations. His associates, true to his ambition and their own, had promoted all the schemes of Bothwel upon the queen with a power and influence which had insured their success. In confederacy with the earl of Murray himself, they had conspired with him to murder the king. Afflicted with the weight of the earl of Murray, they had managed his trial, and operated the verdict which acquitted him. By the same arts, and with the same views, they had joined with him to procure the bond of the nobles recommending him to the queen as a husband, asserting his integrity and innocence, recounting his noble qualities, expressing an unalterable resolution to support the marriage against every opposer and adversary, and recording a wish that a defection from its objects and purposes should be branded with everlasting ignominy, and held out as a most faithless and perjured treachery. When the end, however, was accomplished for which they had been so zealous, and when the marriage of the queen was actually celebrated, they laid aside the pretence of friendship, and were in haste to entitle themselves to the ignominy which they had invited to fall upon them. The murder of the king, the guilt of Bothwel, his acquittal, his divorce, and his marriage, became the topics of their complaints and declamation. Upon the foundation of this hated

marriage, they even ventured privately to infer the privacy of the queen to all his iniquity and transactions; and this step seemed doubtless, to the mass of her own subjects and to more distant observers, a strong confirmation of all the former suspicions to her shame which had been circulated with so much artifice. Their imputations and devices excited against her, both at home and abroad, the most indignant and humiliating odium. Amidst the ruins of her fame, they thought to bury for ever her tranquillity and peace; and in the convulsions they had meditated, they already were anticipating the downfall of Bothwel, and snatching at the crown that tottered on her head.

But while this cabal were prosecuting their private ends, several noblemen, not less remarkable for their virtue than their rank, were eager to vindicate the national integrity and honour. The earl of Athol, upon the king's murder, had retired from the court, and was waiting for a proper season to take revenge upon the regicides. The earl of Marre, uneasy under the charge of the young prince, was solicitous to make himself strong, that he might guard him from injury. Motives so patriotic and honourable drew applause and partizans. It was sufficient to mention them. By private conference and debate, an association was insensibly formed to punish the murderers of the king, and to protect the person of the prince. Morton and Lethington encouraged and promoted a combination from which they might derive so much advantage. A convention accordingly was appointed at Stirling, for the purpose of consulting upon the measures which it was most expedient to pursue. They agreed to take an early opportunity to appear in the field; and when they separated, it was to collect their retainers, and to inspire their passions.

Of this confederacy, the leading men were the earls of Argyle, Athol, Morton, Marre, and Glencairn; the lords Hume, Semple, and Lindsay; the barons Kirkaldy of Grange, Murray of Tullibardin, and Maitland of Lethington. The earl of Bothwel was sensible, that if he was to sit upon a throne, he must wade to it through blood. By his advice, two proclamations were issued in the name of the queen, under the pretence of suppressing insurrections and depredations upon the borders. By the former, she called together in arms, upon an early day, the earls, barons, and freeholders of the districts of Forfar and Perth, Strathern and Menteith, Clackmannan, Kinross, and Fife. By the latter she charged the greater and lesser baronage, with all the inferior proprietors of the shires of Linlithgow and Edinburgh, and the constabulary of Haddington and Berwick, to prepare immediately for war, and to keep themselves in readiness to march upon her order. These military preparations admonished the association to be firm and active, and added to the public inquietudes and discontents. The rumours against the queen were most violent and loud. It was said, that she meant to over-

Scotland

685

A confederacy formed against Bothwel.

686

The queen prepares for war;

hand. Some of her subjects might still have sought that honour; but her compliance would have been humiliating beyond measure. It would have left her at the mercy of a capricious husband; it would have exposed her to the disgrace of being reproached, in some sullen hour, for the adventure at Dunbar. Mary was so situated, at this critical period, that she was reduced to this horrid alternative, either to remain in a friendless and hazardous celibacy, or to yield her hand to Bothwel." Remarks on the History of Scotland, p. 204.

Scotland. to overturn the constitution and the laws; that she had been careless of the health of her son, and was altogether indifferent about his preservation; that she had separated herself from the councils and assistance of her nobles; and that she wished to make her whim or discretion the only rule of her government. Agitated with the hazardous state of her affairs, she published a new proclamation, in which she employed herself to refute these accusations; and in which she took the opportunity to express, in a very forcible manner, not only her attachment to her people and the laws, but the fond affection that she bore to the prince, whom she considered as the chief joy of her life, and without whom all her days would be comfortless.

687
But is obliged to fly to Dunbar.

The declarations of the queen were treated with scorn. The nobles, abounding in vassals, and having the hearts of the people, were soon in a situation to take the field. They were advancing to the capital. The royal army was not yet assembled; and the queen and Bothwel suspected that the castle of Edinburgh would shut its gates upon them. The fidelity of Sir James Balfour the deputy-governor had been staggered by the practices of the earl of Marre and Sir James Melvil. Mary left her palace of Holyroodhouse, and was conducted to Borthwick castle. The associated lords, informed of her flight, took the road to this fortress with 2000 horse. The lord Hume, by a rapid march, presented himself before it with the division under his command: but being unable to guard all its avenues, the queen and Bothwel effected their escape to Dunbar; where the strength of the fortifications gave them a full security against a surprise.

Upon this second disappointment, the nobles resolved to enter Edinburgh, and to augment their strength by new partizans. The earl of Huntley and the lord Boyd were here on the side of the queen, with the archbishop of St Andrew's, the bishop of Ross, and the abbot of Kilwinning. They endeavoured to animate the inhabitants to defend their town and the cause of their sovereign. But the tide of popularity was favourable to the confederated lords. The magistrates ordered the gates of the city to be shut; but no farther resistance was intended. The lords, forcing St Mary's port, found an easy admittance, and took possession of the capital. The earl of Huntley and the queen's friends fled to the castle, to Sir James Balfour, who had been the confidant of Bothwel, and who agreed to protect them, although he was now concluding a treaty with the insurgents.

688
Proclamation by the rebellious nobles.

The associated lords now formed themselves into a council, and circulated a proclamation. By this paper they declared, that the queen being detained in captivity, was neither able to govern her realm, nor to command a proper trial to be taken of the king's murder. In an emergency so pressing, they had not despaired of their country; but were determined to deliver the queen from bondage, to protect the person of the prince, to revenge the murder of the king, and to vindicate the nation from the infamy it had hitherto suffered through the impunity of the regicides. They therefore commanded in general all the subjects of Scotland whatsoever, and the burghesses and inhabitants of Edinburgh in particular, to take a part with them, and to join in the advancement of purposes so beneficial and salutary. The day after they had published this proclamation,

Scotland. they issued another in terms that were stronger and more resolute. They definitively expressed their persuasion of Bothwel's guilt in the rape and seduction of the queen, and in his perpetration of the king's murder, in order to accomplish his marriage. They inculcated it as their firm opinion, that Bothwel was now instigated with a design to murder the young prince, and that he was collecting troops with this view. Addressing themselves, therefore, to all the subjects of the realm, whether they resided in counties or in boroughs, they invited them to come forward to their standard; and desired them to remember, that all persons who should presume to disobey them should be treated as enemies and traitors.

Bothwel, in the mean time, was not inactive; and the proclamations of the queen had brought many of her vassals to her assistance. Four thousand combatants ranged themselves on her side. This force might augment as she approached to her capital; and Bothwel was impatient to put his fortunes to the issue of a battle. He left the strong castle of Dunbar, where the nobles were not prepared to assail him, and where he might have remained in safety till they dispersed themselves. For their proclamations were not so successful as they had expected; their provisions and stores were scanty; and the zeal of the common people, unsupported by prosperity, would soon have abated. Imprudent precipitation served them in a most effectual manner. When the queen had reached Gladsmuir, she ordered a manifesto to be read to her army, and to be circulated among her subjects. By this paper, she replied to the proclamations of the confederated nobles, and charged them with treachery and rebellion. She treated their reasons of hostility as mere pretences, and as inventions which could not bear to be examined. As to the king's murder, she protested, that she herself was fully determined to revenge it, if she could be so fortunate as to discover its perpetrators. With regard to the bondage from which they were so desirous to relieve her, she observed, that it was a falsehood so notorious, that the simplest of her subjects could confute it; for her marriage had been celebrated in a public manner, and the nobles could hardly have forgotten that they had subscribed a bond recommending Bothwel to be her husband. With regard to the industrious defamations of this nobleman, it was urged, that he had discovered the utmost solicitude to establish his innocence. He had invited a scrutiny into his guilt; the justice of his country had absolved him; the three estates assembled in parliament were satisfied with the proceedings of his judges and jury; and he had offered to maintain his quarrel against any person whatsoever who was equal to him in rank and of an honest reputation. The nobles, she said, to give a fair appearance to their treason, pretended, that Bothwel had schemed the destruction of the prince, and that they were in arms to protect him. The prince, however, was actually in their own custody; the use they made of him was that of a screen to their perfidiousness; and the real purposes with which they were animated, were the overthrow of her greatness, the ruin of her posterity, and the usurpation of the royal authority. She therefore intreated the aid of her faithful subjects; and as the prize of their valorous service, she held out to them the estates and possessions of the rebels.

689
Manifesto by the queen.

Scotland.

The associated nobles, pleased at the approach of the queen, put themselves in motion. In the city of Edinburgh they had gathered an addition to their force; and it happened that the Scottish officer who commanded the companies, which, in this period, the king of Denmark was permitted to enlist in Scotland, had been gained to assist them. He had just completed his levies; and he turned them against the queen. The nobles, after advancing to Musselburgh, refreshed their troops. Intelligence was brought that the queen was upon her march. The two armies were nearly equal in numbers; but the preference, in point of valour and discipline, belonged decisively to the soldiers of the nobles. The queen posted herself on the top of Carberry hill. The lords, taking a circuit to humour the ground, seemed to be retreating to Dalkeith; but wheeling about, they approached to give her battle. They were ranged in two divisions. The one was commanded by the earl of Morton and the lord Hume. The other was directed by the earls of Athol, Marre, and Glencairn, with the lords Lindsay, Ruthven, Sempil, and Sanquhar. Bothwell was the leader of the royal forces; and there served under him the lords Seton, Yester, and Borthwick.

690
The two
armies ap-
proach
each other.

691
Du Croc
negotiates
with the
rebels.

It was not without apprehensions that Mary surveyed the formidable appearance of her enemies. Du Croc, the French ambassador, hastened to interpose his good offices, and to attempt an accommodation. He assured the nobles of the peaceful inclinations of the queen; and that the generosity of her nature disposed her not only to forgive their present insurrection, but to forget all their former transgressions. The earl of Morton informed him, that they had not armed themselves against the queen, but against the murderer of the late king; and that if she would surrender him up to them, or command him to leave her, they would consent to return to their duty. The earl of Glencairn desired him to observe, that the extremity to which they had proceeded might have instructed him that they meant not to ask pardon for any offences they had committed, but that they were resolved to take cognizance of injuries which had provoked their displeasure. This aspiring language confounded Du Croc, who had been accustomed to the worshipful submissions that are paid to a despot. He conceived that all negotiation was fruitless, and withdrew from the field in the expectation that the sword would immediately give its law and determine every difference.

Mary was full of perturbation and distress. The state into which she had been brought by Bothwell did not fail to engage her serious reflection. It was with infinite regret that she considered the consequences of her situation at Dunbar. Nor had his behaviour since her marriage contributed to allay her inquietudes. The violence of his passions, his suspicions, and his guilt, had induced him to surround her with his creatures, and to treat her with insult and indignity. She had been almost constantly in tears. His demeanor, which was generally rude and indecent, was often savage and brutal. At different times his provocations were so insulting, that she had even attempted to arm her hand against her life; and was desirous to relieve her wretchedness by spilling her blood. Upon his account, she was now encompassed with dangers. Her crown was in hazard. Under unhappy agitations, she rode through the ranks

of her army, and found her soldiers dispirited. What ever respect they might entertain for her, they had none for her husband. His own retainers and dependents only were willing to fight for him. He endeavoured to awaken the royal army to valour, by throwing down the gauntlet of defiance against any of his adversaries who should dare to encounter him. His challenge was instantly accepted by Kirkaldy of Grange, and by Murray of Tullibardin. He objected that they were not peers. The lord Lindsay discovered the greatest impatience to engage him, and his offer was admitted; but the queen interposing her prerogative, prohibited the combat. All the pride and hopes of Bothwell sunk within him. His soldiers in small parties were secretly abandoning their standards. It was equally perilous to the queen to fight or to fly. The most prudent expedient for her was to capitulate. She desired to confer with Kirkaldy of Grange, who remonstrated to her against the guilt and wickedness of Bothwell, and counselled her to abandon him. She expressed her willingness to dismiss him upon the condition that the lords would acknowledge their allegiance and continue in it. Kirkaldy passed to the nobles, and received their authority to assure her that they would honour, serve, and obey her as their princess and sovereign. He communicated this intelligence to her. She advised Bothwell to provide for his safety by flight; and Kirkaldy admonished him not to neglect this opportunity of effecting his escape. Overwhelmed with shame, disappointment, terror, remorse, and despair, this miserable victim of ambition and guilt turned his eyes to her for the last time. To Kirkaldy of Grange she stretched out her hand: he kissed it; and taking the bridle of her horse, conducted her towards the nobles. They were approaching her with becoming reverence. She said to them, "I am come, my lords, to express my respect, and to conclude our agreement; I am ready to be instructed by the wisdom of your counsels; and I am confident that you will treat me as your sovereign." The earl of Morton, in the name of the confederacy, ratified their promises, and addressed her in these words: "Madam, you are here among us in your proper place; and we will pay to you as much honour, service, and obedience, as ever in any former period was offered by the nobility to the princes your predecessors."

Scotland.

692
Bothwell
challenged
to single
combat.

693
He is obli-
ged to fly.

694
Mary sur-
renders
herself to
the rebels.

695
By whom
she is cruel-
ly used.

This gleam of sunshine was soon overcast. She remained not many hours in the camp, till the common soldiers, instigated by her enemies, presumed to insult her with the most unseemly reproaches. They exclaimed indignantly against her as the murderer of her husband. They reviled her as a lewd adulteress in the most open manner, and in a language the most coarse and the most opprobrious. The nobility forgot their promises, and seemed to have neither honour nor humanity. She had changed one miserable scene for a distress that was deeper and more hopeless. They surrounded her with guards, and conducted her to her capital. She was carried along its streets, and shown to her people in captivity and sadness. She cried out to them to commiserate and protect her. They withheld their pity, and afforded her no protection. Even new insults were offered to her. The lowest of the populace, whom the declamations of the clergy had driven into rage and madness, vied with the soldiery in the li-

centious

Scotland. centious outrage of invective and execration. She be-
fought Maitland to solicit the lords to repress the in-
supportable atrocity of her treatment. She conjured
him to let them know, that she would submit herself
implicitly to the determination of the parliament. Her
intreaties and her sufferings made no impression upon
the nobles. They continued the savage cruelty of their
demeanour. She implored, as the last request she would
prefer to them, that they would lead her to her palace.
This consolation, too, was refused to her. They with-
ed to accustom her subjects to behold her in disgrace, and
to teach them to triumph over her misfortunes. In
the most mortifying and afflicting hour she had ever
experienced, oppressed with fatigue, and disfigured with
dust and sorrow, they shut her up in the house of the
lord provost: leaving her to revolve in her anxious and
agitated mind the indignities she had already endured,
and to suffer in anticipation the calamities they might
yet inflict upon her.

The malice of Morton and his adherents was still far
from being gratified. In the morning, when the queen
looked from the window of the apartment to which
she had been confined, she perceived a white banner
displayed in such a manner as to fix her attention.
There was delineated upon it the body of the late king
stretched at the foot of a tree, and the prince upon his
knees before it, with a label from his mouth, contain-
ing this prayer, "Judge and revenge my cause, O
Lord!" This abominable banner revived all the bit-
terness of her afflictions. The curiosity of the people
drew them to a scene so new and so affecting. She
exclaimed against the treachery of her nobles; and she
begged the spectators to relieve her from their tyranny.
The eventful story of the preceding day had thrown
her capital into a ferment. The citizens of a better
condition crowded to behold the degraded majesty of
their sovereign. Her state of humiliation, so opposite
to the grandeur from which she had fallen, moved them
with compassion and sympathy. They heard her tale,
and were filled with indignation. Her lamentations,
her disorder, her beauty, all stimulated their ardour for
her deliverance. It was announced to the nobles, that
the tide of popular favour had turned towards the
queen. They hastened to appear before her, and to
assure her, with smiles and courtesy, that they were im-
mediately to conduct her to her palace, and to reinstate
her in her royalty. Imposing upon her credulous na-

ture, and that beautiful humanity which characterized
her even in the most melancholy situations of her life,
they prevailed with her to inform the people, that
she was pacified, and that she wished them to disperse
themselves. They separated in obedience to her desire.
The nobles now conveyed her to Holyroodhouse. But
nothing could be farther from their intentions than her re-
establishment in liberty and grandeur. They held a council,
in which they deliberated concerning the manner in which
they ought to dispose of her. It was resolved, that she
should be confined during her life in the fortrefs of Loch-
leven; and they subscribed an order for her commitment.

A resolution so sudden, so perfidious, and so tyrannical, filled Mary with the utmost astonishment, and
drew from her the most bitter complaints and exclama-
tions. Kirkaldy of Grange, perceiving with surprise
the lengths to which the nobles had proceeded, felt his
honour take the alarm for the part he had acted at their
desire. He expostulated with them upon their breach
of trust, and censured the extreme rigour of the queen's
treatment. They counselled him to rely upon the in-
tegrity of their motives; spoke of her passion for Both-
wel as most vehement, and insisted on the danger of
intrusting her with power. He was not convinced by
their speeches; and earnestly recommended lenient and
moderate measures. Discreet admonitions, he said,
could not fail of impressing her with a full sense of the
hazards and inconveniences of an improper passion, and
a little time would cure her of it. They assured him,
that when it appeared that she detested Bothwel, and
had utterly abandoned his interests, they would think of
kindness and moderation. But this, they urged, could
hardly be expected; for they had recently intercepted
a letter from her to this nobleman, in which she ex-
pressed, in the strongest terms, the warmth of her love,
and her fixed purpose never to forsake him (r). Kir-
kaldy was desired to peruse this letter; and he pressed
them no longer with his remonstrances. The queen,
in the mean time, sent a message to this generous sol-
dier, complaining of the cruelty of her nobles, and
reminding him that they had violated their engagements.
He instantly addressed an answer to it, recounting the
reproaches he had made to them; stating his advice;
describing the surprise with which he had read her in-
tercepted letter; and conjuring her to renounce and
forget a most wicked and flagitious man, and, by this
victory over herself, to regain the love and respect of
her

696
The com-
mon people
take her
part;

Scotland.
697
But by the
advice of
the nobles
she dismiss-
es them.

698
She is de-
fended by
Kirkaldy of
Grange;

699
But he is
silenced by
a forgery
of the no-
bles.

(r) "Mr Hume is candid enough to give up the authenticity of this letter; and indeed, so far as I have observed, there is not the slightest pretence of a reason for conceiving it to be genuine; (*Hist. of England*, Vol. V. p. 120.) It was not mentioned by the earl of Morton and his adherents to Throgmorton, when Elizabeth interfered in the affairs of Scotland upon the imprisonment of the queen in the castle of Lochleven: a period of time when these statesmen were desirous to throw out every imputation to her prejudice, and when in particular they were abusing her with vehemence for her attachment to Bothwel; (*Keith*, p. 419.) Nor was it made use of by Murray before the English commissioners. Mary, in the condition to which the nobles had reduced her, could not well think of a step of this sort, although her attachment to Bothwel had been as strong as they were pleased to pronounce it. For, not to speak of the greatness of her distress, she was guarded by them so strictly, as to make it vain for her to pretend to elude their vigilance. In regard, too, to her love of Bothwel, it is not clear that it was ever real. While the king was alive, there are no traces of their improper intercourse. The affair of Dunbar was a criminal seduction. The arts of a profligate man overcame her. There was no sentiment of love upon either side. After her marriage, his rudeness extinguished in her altogether any remain of kindness and respect; and hence the coldness with which she parted with him." *Stuart's History of Scotland*, Vol. 1. p. 253. note.

⁷⁰⁰ Scotland. her subjects. The device of a letter from her to Bothwel completed the amazement of the queen. So unprincipled a contempt of every thing that is most sacred, so barbarous a perseverance in perfidiousness and injustice, extinguished every sentiment of hope in her bosom. She conceived that she was doomed to inevitable destruction, and sunk under a pang of unutterable anguish.

Mary confined in Lochleven castle. The Lords Ruthven and Lindsay arrived in this paroxysm of her distress, to inform her, that they were commanded to put in execution the order for her commitment. They charged her women to take from her all her ornaments and her royal attire. A mean dress was put upon her; and in this disguise they conveyed her with precipitation to the prison appointed for her. The Lords Seton, Yester, and Borthwick, endeavoured to rescue her, but failed in the attempt. She was delivered over to William Douglas the governor of the castle of Lochleven, who had married the mother of the earl of Murray, and was himself nearly related to the earl of Morton. See MARY.

⁷⁰¹ The rebellious lords enter into a bond of association. Upon the same day on which the nobles subscribed the order for the imprisonment of the queen, they entered into a bond of concurrence or confederacy. By this deed they bound and cemented themselves into a body for the strenuous prosecution of their quarrel; and it detailed the purposes which they were to forward and pursue. They proposed to punish the murderers of the king, to examine into the queen's rape, to dissolve her marriage, to preserve her from the bondage of Bothwel, to protect the person of the prince, and to restore justice to the realm. The sanction of a most solemn oath confirmed their reliance upon one another; and in advancing their measures, they engaged to expose and employ their lives, kindred, and fortunes.

It is easy to see, notwithstanding all the pretended patriotism of the rebels, that nothing was farther from their intentions than to prosecute Bothwel and restore the queen to her dignity. They had already treated her in the vilest manner, and allowed Bothwel to escape when they might easily have apprehended and brought him to any trial they thought proper. To exalt themselves was their only aim. Eleven days after the capitulation at Carberry hill, they held a convention, in which they very properly assumed the name of *lords of the secret council*, and issued a proclamation for apprehending Bothwel as the murderer of the king; offering a reward of 1000 crowns to any person who should bring him to Edinburgh. A search had been made for the murderers of the king that very night in which the queen was confined in Lochleven castle. One Sebastian a Frenchman, and captain Blackader, were then apprehended; and soon after James Edmondstone, John Blackader, and Mynart Fraser, were taken up and imprisoned. The people expected full and satisfactory proofs of the guilt of Bothwel, but were disappointed. The affirmation of the nobles, that they were possessed of evidence which could condemn him, appeared to be no better than a pretence or artifice. Sebastian found means to escape; the other persons were put to the torture, and sustained it without making any confession that the nobles could publish. They were condemned, however, and executed, as being concerned in the murder. In their dying moments they protested their innocence.

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A sanguine hope was entertained that captain Blackader would reveal the whole secret at the place of execution, and a vast multitude of spectators were present. No information, however, could be derived from what he said with regard to the regicides; but while he solemnly protested that his life was unjustly taken away, he averred it as his belief that the earls of Murray and Morton were the contrivers of the king's murder.

The lords of the secret council now proceeded to the greatest enormities. They robbed the palace of Holyroodhouse of its furniture and decorations; converted the queen's plate into coin; and possessed themselves of her jewels, which were of great value; and while the faction at large committed these acts of robbery, the earl of Glencairn with solemn hypocrisy demolished the altar in the queen's chapel, and defaced and destroyed all its pictures and ornaments. These excessive outrages, however, lost them the favour of the people, and an association was formed in favour of the queen. The court of France, as soon as the news of Mary's imprisonment arrived, dispatched M. de Villeroy to condole with her upon her misfortunes: but the lords of the secret council would not admit him to see her, upon which he immediately returned to his own country. The earl of Murray, however, was at this time in France; and to the promises of this ambitious and treacherous wretch the king trusted, imagining him to be a steady friend to the unfortunate queen. Elizabeth also pretended friendship, and threatened the associated lords; but as they had every reason to doubt her sincerity, they paid no regard to her threats, and even refused to admit her ambassador to Mary's presence.

From all these appearances of friendship Mary neither did nor could derive any real assistance. On the 24th of July 1567, the lord Lindsay, whose imperious behaviour, says Dr Stuart, approached to insanity, was ordered by the lords to wait upon the queen at Lochleven. He carried with him three deeds or instruments, and was instructed not to be sparing in rudeness and menaces in order to compel her to subscribe them. By the first, she was to resign her crown to her infant-son; by the second, she appointed the earl of Murray regent of Scotland; and by the third, she constituted a council to direct the prince till this nobleman should arrive in Scotland, or in the event of his death or refusal of the office. On the part of the queen all resistance was vain. Sir Robert Melvil assured her, that her best friends were of opinion, that what she did by compulsion, and in a prison, could have no power to bind her; and of this she was also assured by Throgmorton, the English ambassador, in a letter which Sir Robert Melvil brought in the scabbard of his sword. Mary therefore, forlorn and helpless, could not resist the barbarous rudeness with which Lindsay pressed the subscription of the papers, though she would not read them. Five days after, the lords of the secret council met at Stirling, for the coronation of the young prince, and considered themselves as representing the three estates of the kingdom. A protestation was made in the name of the duke of Chatelherault, that this solemnity should neither prejudice his rights of succession nor those of the other princes of the blood. The young prince being presented to them, the lords Lindsay and Ruthven appeared, and in the name of the queen renounced in his favour her right and title to the crown, gave up the papers

Scotland.

⁷⁰³ But they make no confession.

⁷⁰⁴ Robberies and outrages of the confederated lords.

⁷⁰⁵ Mary compelled to sign a resignation of her crown.

⁷⁰⁶ Coronation of James VI.

Scotland.

papers she had subscribed, and surrendered the sword, sceptre, and royal crown. After the papers were read, the earls of Morton, Athol, Glencairn, Marre, and Menteith, with the master of Graham, the lord Hume, and Bothwel bishop of Orkney, received the queen's resignation in favour of her son in the name of the three estates. After this formality, the earl of Morton, bending his body, and laying his hand upon the Scriptures, took the coronation-oath for the prince, engaging that he should rule according to the laws, and root out all heretics and enemies to the word of God. Adam Bothwel then anointed the prince king of Scotland; a ceremony with which John Knox was displeased, as believing it to be of Jewish invention. This prelate next delivered to him the sword and the sceptre, and finally put the crown upon his head. In the procession to the castle from the church, where the inauguration was performed, and where John Knox preached the inauguration sermon, the earl of Athol carried the crown, Morton the sceptre, Glencairn the sword, and the earl of Marre carried the prince in his arms. These solemnities received no countenance from Elizabeth; and Throgmorton, by her express command, was not present at them.

707
Disappro-
ved by
Elizabeth.

708
Murray re-
turns from
France.

709
He pays a
visit to the
queen at
Lochleven.

Soon after this ceremony, the earl of Murray returned from France; and his presence gave such a strength and firmness to his faction, that very little opposition could be given by the partisans of Mary, who were unsettled and desponding for want of a leader. A little time after his arrival, this monstrous hypocrite and traitor waited upon his distressed and insulted sovereign at Lochleven. His design was to get her to desire him to accept of the regency, which he otherwise pretended to decline. The queen, unsuspecting of the deepness of his arts, conscious of the gratitude he owed to her, and trusting to his natural affection, and their tie of a common father, received him with a tender welcome. She was in haste to pour forth her soul to him; and with tears and lamentations related her condition and her sufferings. He heard her with attention: and turned occasionally his discourse to the topics which might lead her to open to him her mind without disguise in those situations in which he was most anxious to observe it. His eye and his penetration were fully employed; but her distress awakened not his tenderness. He seemed to be in suspense; and from the guardedness of his conversation she could gather neither hope nor fear. She begged him to be free with her, as he was her only friend. He yielded to her intreaties as if with pain and reluctance; and taking a comprehensive survey of her conduct, described it with all the severity that could affect her most. He could discover no apology for her misgovernment and disorders; and, with a mortifying plainness, he pressed upon her conscience and her honour. At times she wept bitterly. Some errors she confessed; and against calumnies she warmly vindicated herself. But all she could urge in her behalf made no impression upon him; and he spoke to her of the mercy of God as her chief refuge. She was torn with apprehensions, and nearly distracted with despair. He dropped some words of consolation; and after expressing an attachment to her interests, gave her his promise to employ all his consequence to secure her life. As to her liberty, he told her, that to achieve it was beyond all his efforts; and that it was not good for her

to desire it. Starting from her seat, she took him in her arms, and kissing him as her deliverer from the scaffold, solicited his immediate acceptance of the regency. He declared he had many reasons to refuse the regency. She implored and conjured him not to abandon her in the extremity of her wretchedness. There was no other method, she said, by which she herself could be saved, her son protected, and her realm rightly governed. He gave way to her anxiety and solicitations. She besought him to make the most unbounded use of her name and authority, desired him to keep for her the jewels that yet remained with her, and recommended it to him to get an early possession of all the forts of her kingdom. He now took his leave of her, and embracing anew this pious traitor, she sent her blessing with him to the prince her son.

In the mean time the wretched earl of Bothwel was struggling with the greatest difficulties. Sir William Murray and Kirkaldy of Grange had put to sea in search of him. He had been obliged to exercise piracy in order to subsist himself and his followers. His pursuers came upon him unexpectedly at the Orkney islands, and took three of his ships; but he himself made his escape. Soon after, having seized a Turkish trader on the coast of Norway, two ships of war belonging to the king of Denmark gave chase to him as a pirate. An engagement ensued, in which Bothwel was taken. His officers and mariners were hanged in Denmark; but Bothwel himself, being known by some Scottish merchants, had his life spared. He was thrown, however, into a dungeon, where he remained ten years; and at last died melancholy and distracted. The regent sent commissioners to the king of Denmark to demand him as a prisoner; but that prince, considering him as a traitor and usurper, totally disregarded his request.

The dreadful fate of Bothwel did not make any alteration in the situation of the queen. Her enemies, bent on calumniating her, produced letters, which they said were written and sent by her to that licentious nobleman during the life of the king. These letters are now universally admitted to have been forged by the rebels themselves, who practised likewise upon some servants of Bothwel to accuse the queen of the murder of her husband. The letters for some time gained credit; but the confessions of the servants were all in her favour. When on the scaffold, they addressed themselves to the people; and after having solemnly declared the innocence of the queen, they protested before God and his angels, that the earl of Bothwel had informed them that the earls of Murray and Morton were the contrivers of the king's murder.

It was impossible that such transactions as these could advance the popularity of the regent. His unbounded ambition and cruelty to his sovereign began at last to open the eyes of the nation; and a party was forming itself in favour of the queen. She herself had been often meditating her escape from her prison; and she at last effected it by means of a young gentleman George Douglas, brother to her keeper, who had fallen in love with her. On the 2d day of May 1568, about seven o'clock in the evening, when her keeper was at supper with his family, George Douglas, possessing himself of the keys of the castle, hastened to her apartment, and conducted her out of prison. Having locked the gates

710
And in-
duces her
to press
him to ac-
cept of the
regency.

711
Miserable
fate of
Bothwel.

712
Letters
forged
between
Mary and
Bothwel.

713
Servants of
Bothwel
executed,
who declare
the inno-
cence of the
queen.

714
The queen
escapes
from pri-
son.

Scotland. of the castle, they immediately entered a boat which waited for them; and being rowed across the lake, the lord Seton received the queen with a chosen band of horsemen in complete armour. That night he conveyed her to his house of Niddrie in West Lothian; where having rested a few hours, she set out for Hamilton.

715 The regent raises an army. The escape of the queen threw her enemies into the greatest consternation. Many forsook the regent openly; and still more made their submissions privately, or concealed themselves. He did not, however, despond; but resolved to defend himself by force of arms. The queen soon found herself at the head of 6000 men, and the regent opposed her with 4000. Mary, however, did not think it proper to risk a battle; knowing the capacity of the regent as a general, and that his officers were all men of approved valour and experience. But in this prudent resolution she was over-ruled by the impetuosity of her troops. A battle was fought on the 13th of May 1568, at Langside near Glasgow; in which Mary's army was defeated, and her last hopes blasted. The unfortunate queen fled towards Kirkcudbright; where finding a place of safety, she deliberated on the plan she should afterwards follow. The result of her deliberations, as frequently happens in cases of perplexity, led her to take the worst step possible. Notwithstanding all the perfidy which she had found in Elizabeth, Mary could not think that she would now refuse to afford her a refuge in her dominions; and therefore determined to retire into England. To this she had been solicited by Elizabeth herself during her confinement in Lochleven castle; and she now resolved, in opposition to the advice of her most faithful counsellors, to make the fatal experiment.

716 Mary's army defeated at Langside near Glasgow. In obedience to her order, the lord Herries addressed a letter to Mr Lauder, the deputy-commander at Carlisle; and after detailing her defeat at Langside, desired to know if she might trust herself upon English ground. This officer wrote instantly an answer, in which he said, that the lord Scroop the warden of the frontiers being absent, he could not of his private authority give a formal assurance in a matter which concerned the state of a queen: but that he would send by post to his court to know the pleasure of his sovereign; and that if in the mean time any necessity should force Mary to Carlisle, he would receive her with joy, and protect her against her enemies. Mary, however, before the messenger could return, had embarked in a fishing boat with sixteen attendants. In a few hours she landed at Wirkington in Cumberland; and from thence she proceeded to Cockermouth, where she continued till Mr Lauder, having assembled the gentlemen of the country, conducted her with the greatest respect to the castle of Carlisle.

717 She resolves to fly into England. 718 And puts her design in execution. To Elizabeth she announced her arrival in a dispatch, which described her late misfortunes in general and pathetic terms, and in which she expressed an earnest solicitude to pay her a visit at her court, and the deep sense she entertained of her friendship and generosity. The queen of England, by obliging and polite letters, consoled with her upon her situation, and gave her assurances of all the favour and protection that were due to the justice of her cause. But as they were not accompanied with an invitation to London, Mary took the alarm. She thought it expedient to instruct lord

Fleming to repair to France; and she intrusted lord Scotland. Herries with a most pressing remonstrance to Elizabeth. Her anxiety for an interview in order to vindicate her conduct, her ability to do so in the most satisfactory manner, and her power to explain the ingratitude, the crimes, and the perfidy of her enemies, were urged to this princess. A delay in the state of her affairs was represented as nearly equivalent to absolute destruction. An immediate proof was therefore requested from Elizabeth of the sincerity of her professions. If she was unwilling to admit into her presence a queen, a relation, and a friend, she was reminded, that as Mary's entrance into her dominions had been voluntary, her departure ought to be equally free and unrestrained. She valued the protection of the queen of England above that of every other potentate upon earth; but if it could not be granted, she would solicit the amity, and implore the aid, of powers who would commiserate her afflictions, and be forward to relieve them. Amidst remonstrances, however, which were so just and so natural, Mary failed not to give thanks to Elizabeth for the courtesy with which she had hitherto been treated in the castle of Carlisle. She took the opportunity also to beg of this princess to avert the cruelty of the regent from her adherents, and to engage him not to waste her kingdom with hostility and ravages; and she had the prudence to pay her compliments in an affectionate letter to secretary Cecil, and to court his kind offices in extricating her from her difficulties and troubles.

But the queen of England was not to be moved by remonstrances. The voluntary offer of Mary to plead her cause in the presence of Elizabeth, and to satisfy all her scruples, was rejected. Her disasters were rather a matter of exultation than of pity. The deliberations of the English queen, and those of her statesmen, were not directed by maxims of equity, of compassion, or of generosity. They considered the flight of Mary into England as an incident that was fortunate and favourable to them; and they were solicitous to adopt those measures which would enable them to draw from it the greatest profit and advantage. If the queen of Scots were allowed to return to her own dominions, it was probable that she would soon be in a condition to destroy the earl of Murray and his faction, who were the friends of England. The house of Hamilton, who were now zealous in the interests of France, would rise into consideration and power. England would be kept in perpetual turmoils upon the frontiers; Ireland would receive molestation from the Scots, and its disturbances grow important and dangerous. Mary would renew with redoubled ardour her designs against the Protestant religion; and a French army would again be introduced into Scotland. For these reasons, Elizabeth and her ministers determining not to restore the queen of Scots to her throne, considered what would be the probable consequences of permitting her to remain at liberty in England. In this situation, she would augment the number of her partizans, send to every quarter her emissaries, and inculcate her title to the crown. Foreign ambassadors would afford her aid, and take a share in her intrigues; and Scotland, where there was so high an object to be gained, would enter with cordiality into her views. This plan being also hazardous, it was deliberated whether the

Scotland.

queen of Scots might not be allowed to take a voyage into France. But all the pretensions which had hitherto threatened the crown of Elizabeth would in this case be revived. A strong resentment to her would even urge Mary and Charles IX. to the boldest and most desperate enterprises. The party of the queen of Scots in England, strong from motives of religion and affection, and from discontents and the love of change, would stimulate their anger and ambition. England had now no territories in France. A war with that country and with Scotland would involve the greatest dangers. Upon revolving these measures and topics, Elizabeth and her counsellors were induced to conclude, that it was by far the wisest expedient to keep the queen of Scots in confinement, to invent methods to augment her distress, to give countenance to the regent, and to hold her kingdom in dependence and subjection.

722
They resolve to confine her for life.

723
Elizabeth refuses to admit the queen into her presence.

In consequence of this cruel and unjust resolution, Mary was acquainted, that she could not be admitted into Elizabeth's presence till she had cleared herself of the crimes imputed to her; she was warned not to think of introducing French troops into Scotland; and it was hinted, that for the more security she ought to be removed farther from the frontier. This message at once showed Mary the imprudence of her conduct in trusting herself to Elizabeth. But the error could not now be remedied. She was watched to prevent her escape, and all her remonstrances were vain. The earl of Murray had offered to accuse her; and it was at last concluded that Elizabeth could not, consistently with her own honour and the tranquillity of her government, suffer the queen of Scots to come into her presence, to depart out of England, or to be restored to her dignity, till her cause should be tried and decided. An order was given to remove her from Carlisle castle to a place of strength at a greater distance from the borders, to confine her more closely, and to guard against all possibility of an escape.

724
Mary is removed from Carlisle, and closely guarded.

In consequence of these extraordinary transactions, a trial took place, perhaps the most remarkable for its injustice and partiality of any recorded in history. Mary, confined and apprehensive, submitted to be tried as they thought proper. The regent, who was to be the accuser, was summoned into England, and commissioners were appointed on both sides. On the 4th of October, the commissioners met at York; and four days after, the deputies of the queen of Scots were called to make known their complaints. They related the most material circumstances of the cruel usage she had received. Their accusations were an alarming introduction to the business in which the regent had embarked; and notwithstanding the encouragement shown to him by Elizabeth, he was assailed by apprehensions. The artifices of Maitland added to his alarms. Instead of proceeding instantly to defend himself, or to accuse the queen, he sought permission to relate his doubts and scruples to the English commissioners. In his own name, and with the concurrence of his associates, he demanded to know whether they had sufficient authority from Elizabeth to pronounce, in the case of the murder, Guilty or not guilty, according to the evidence that should be laid before them; whether they would actually exercise this power; whether, in the event of her criminality, their sovereign should be deli-

726
Infamous behaviour of Murray.

vered to him and his friends, or detained in England in such a way as that no danger should ensue from her activity; and whether, upon her conviction, the queen of England would allow his proceedings, and those of his party, to be proper, maintain the government of the young king, and support him in the regency in the terms of the act of parliament which had confirmed him in that office. To these requisitions, it was answered, upon the part of the English deputies, that their commission was so ample, that they could enter into and proceed with the controversy; and that they had liberty to declare, that their sovereign would not restore the queen of Scots to her crown, if satisfactory proofs of her crime should be produced; but that they knew not, and were not instructed to say, in what manner she would finally conduct herself as to her person and punishment. With regard to the sovereignty of the prince, and the regency of the earl of Murray, they were points, they observed, which might be canvassed in a futurer period. These replies did not please the regent and his associates; and they requested the English commissioners to transmit their doubts and scruples to be examined and answered by Elizabeth.

But while the regent discovered in this manner his apprehensions, he yet affirmed that he was able to answer the charges imputed to him and his faction; and this being in a great measure a distinct matter from the controversy of the murder, he was desired to proceed in it. It was contended, that Bothwell, who had the chief concern in the murder of lord Darnley, possessed such credit with the queen, that within three months after that horrible event, he seized her person and led her captive to Dunbar, obtained a divorce from his wife, and married her: that the nobility, being moved with his crimes, did confederate to punish him; to relieve her from the tyranny of a man who had ravished her, and who could not be her husband; and to preserve the life of the prince: that having taken arms for these purposes, the earl marched against them; but that, proposing to decide the quarrel by single combat, his challenge was accepted: that he declined, notwithstanding, to enter the lists, and fled: that the queen, preferring his impunity to her own honour, favoured his escape by going over to the nobility: that they conducted her to Edinburgh, where they informed her of the motives of their proceedings, requested her to take the proper steps against him and the other regicides, and intreated her to dissolve her pretended marriage, to take care of her son, and to consult the tranquillity of her realm: that this treatment being offensive to her, she menaced them with vengeance, and offered to surrender her crown if they would permit her to possess the murderer of her husband: that her inflexible mind, and the necessities of the state, compelled them to keep her at a distance from him, and out of the way of a communication with his adherents: that during her confinement, finding herself fatigued with the troubles of royalty, and unfit for them from vexation of spirit and the weakness of her body and intellect, she freely and of her own will resigned her crown to her son, and constituted the earl of Murray to the regency; that the king accordingly had been crowned, and Murray admitted to the regency; that the sanction of the three estates assembled in parliament having confirmed these appointments, an uni-

727
His accusation against Mary.

Scotland.

Scotland. *versal* obedience of the people had ensued, and a steady administration of justice had taken place: that certain persons, however, envious of the public order and peace, had brought her out of prison, and had engaged to subvert the government; that they had been disappointed in their wicked attempts; and that it was most just and equitable, that the king and the regent should be supported in power, in opposition to a rebellious and turbulent faction.

718
Confuted
by the de-
puties of
Mary.

This apology, so imperfect, so impudent, and so irreconcilable with history, received a complete confutation from the deputies of the queen of Scots. To take arms against her because Bothwell had her favour, was, they said, a lame justification of the earl of Murray and his friends; since it had never been properly manifested to her that he was the murderer of her husband. He had indeed been suspected of this crime; but had been tried by his peers, and acquitted. His acquittal had been ratified in parliament, and had obtained the express approbation of the party who were now so loud in accusing him, and who had conspired against her authority. These rebels had even urged her to accomplish her marriage with him, had recommended him as the fittest person to govern the realm, and had subscribed a bond asserting his innocence, and binding themselves to challenge and punish all his adversaries and opponents. They had never, either before or after the marriage, like true subjects, adverted the queen of his guilt, till, having experience of their strength, they secretly took arms, and invested her in Borthwick castle. The first mark of their displeasure was the sound of a trumpet in hostility, and the display of warlike banners. She made her escape to Dunbar; and they returning to Edinburgh, levied troops, issued proclamations, took the field against her, under the pretence of delivering her from his tyranny, and got possession of her person. She was willing to prevent the effusion of blood, and was very far from preferring his impunity to her honour. Kirkaldy of Grange, in obedience to instructions from them, desired her to cause him to retire, and invited her to pass to them under the promise of being served and obeyed as their sovereign. She consented, and Kirkaldy taking Bothwell by the hand, recommended it to him to depart, and assured him that no man would pursue him. It was by their own contrivance that he fled; and it was in their power to have taken him; but they showed not the smallest desire to make him their prisoner. He remained, too, for some time in the kingdom, and was unmolested by them; and it was not till he was upon the seas that they affected to go in search of him. When she surrendered herself in the sight of their army, the earl of Morton ratified the stipulations of Kirkaldy, made obeisance to her in their names, and promised her all the service and honour which had ever been paid to any of her predecessors. They were not slaves, however, to their engagements. They carried her to Edinburgh, but did not lodge her in her palace. She was committed to the house of a burgess, and treated with the vilest indignities. She indeed broke out into menaces, and threatened them; nor was this a matter either of blame or of wonder. But it was utterly false that she had ever made any offer to give away her crown, if she might possess Bothwell. In the midst of her sufferings, she had even required them by

Scotland. secretary Maitland to specify their complaints, and besought them to allow her to appear in parliament, and to join and assist in seeking a remedy to them from the wisdom of the three estates. This overture, however, so salutary and submissive, they absolutely rejected.— They were animated by purposes of ambition, and had not in view a relief from grievances. They forced her from her capital in the night, and imprisoned her in Lochleven; and there, they affirm, being exhausted with the toils of government and the languors of sickness, she, without constraint or solicitation, resigned her crown to her son, and appointed the earl of Murray to be regent during his minority. This indeed was to assume an unlimited power over facts; but the truth could neither be concealed, nor overturned, nor palliated. She was in the vigour of youth, unassailed by maladies, and without any infirmity that could induce her to surrender the government of her kingdom. Nor was it unknown to them that the earl of Athol and the barons Tullibardin and Lethington, principal men of their council, dispatched Sir Robert Melvil to her with a ring and presents, with a recommendation to subscribe whatever papers should be laid before her, as the only means in her power to save her life, and with an assurance that what she did under captivity could not operate any injury to her. Melvil, too, communicated to her an intimation in writing from Sir Nicholas Throgmorton, which gave her the same advice and the same assurance. To Sir Nicholas Throgmorton she sent an answer, informing him that she would follow his counsel; and enjoining him to declare to his mistress her hapless state, and that her resignation of her crown was constrained. Nor did this ambassador neglect her commission; and it was a popular persuasion that Elizabeth would have marched an army to her relief, if she had not been intimidated by the threat of the rebels, that the blood of the queen of Scots would be the wages of her soldiers. It was also not to be contradicted, that when the lord Lindsay presented to his sovereign the instruments of resignation, he menaced her with a closer prison and a speedy death if she should refuse to subscribe them. It was under an extreme terror, and with many tears, that she put her name to them. She did not consider them as her deeds; did not read them; and protested, that when she was at liberty, she would disavow subscriptions which had been extorted from her. Even Douglas, the keeper of Lochleven, could not endure to be a witness of the violence employed against her. He departed out of her presence, that he might not see her surrender her rights against her will; and he sought and obtained from her a certificate, that he was not accessory to this compulsion and outrage. Nor did it consist with the slightest probability or reason, that she would, of her own will and accord, execute a resignation of her royal estate, and retain no provision for her future maintenance. Yet by these extraordinary deeds, the condition to which she was reduced was most miserable and wretched. For no portion whatever of her revenue was reserved to her, and no security of any kind was granted either for her liberty or her life. As to the coronation of the prince, it could have no validity, as being founded in a pretended and forced resignation. It was also defective in its form; for there were in Scotland more than an hundred earls, bishops, and lords; and of these the whole, or at least the major part, ought

Scotland.

to concur in matters of importance. Now there did not assist in it more than four earls, six lords, one bishop, and two or three abbots. Protestations, too, were openly made, that nothing transacted at that period should be any prejudice to the queen, her estate, and the blood-royal of Scotland. Neither could it be rightly conceived, that if the queen had willingly surrendered her dignities, she would have named the earl of Murray to the regency in preference to the duke of Chatelherault, who had a natural and proper claim to it, and who had deserved well of her country by discharging that high office during her minority. As to the ratification of the investiture of the young prince, and the regency of the earl of Murray by the estates, it was observable, that this was done in an illegal parliament. It was an invalid confirmation of deeds which in themselves had no inherent power or efficacy. The principal nobility, too, objected in this parliament to this ratification. Protestations were made before the lords of the articles, as well as before the three estates, to interrupt and defeat transactions which were in a wild hostility to the constitution and the laws. Neither was it true that the government of the king and the regent was universally obeyed, and administered with equity and approbation: for a great division of the nobility never acknowledged any authority but that of the queen, and never held any courts but in her name; and it was notorious, that the administration of the usurpers had been marked and distinguished by enormous cruelties and oppressions. Many honourable families and loyal subjects had been persecuted to ruin, and plundered of their wealth, to gratify the retainers and soldiers who upheld this insolent domination; and murder and bloodshed, theft and rapine, were prevalent to a degree unheard of for many ages. Upon all these accounts, it was inferred, that Elizabeth ought to support the queen of Scots, to restore her to her crown, and to overthrow the power of a most unnatural and rebellious faction.

719
The regent
unable to
reply.

To these facts the regent did not pretend to make any objection; and though required by the English commissioners to produce sounder and better reasons for his treatment of the queen, he did not advance any thing in his own behalf. He even allowed the charges of treason and usurpation to be pressed against him, without presuming to answer. This surprising behaviour, which might readily have been construed into an acknowledgment of his guilt, it seems, proceeded from some conferences which he had with the duke of Norfolk. This nobleman was a zealous partizan for the succession of Mary to the English crown. He was strongly possessed with the opinion, that his mistress, while she was disposed to gratify her animosity and jealousies against the queen of Scots, was secretly resolved, by fixing a stain upon her, to exclude her altogether from the succession, and to involve her son in her disgrace. He was eager to defeat a purpose, which he conceived to be not only unjust in itself, but highly detrimental to his country. It was in his power to act with this view; and he observed with pleasure, that Maitland of Lethington was favourable to Mary. To this statesman, accordingly, he ventured to express his surprise, that the regent could be allured to think of an attempt so blameable as that of criminating his sovereign. If Mary had really given offence by miscar-

riage and mistakes, it yet was not the business of a good subject industriously to hold her out to scorn. Anxious and repeated conferences were held by them; and at length it was formally agreed, that the regent should not accuse the queen of Scots; and that the duke in return should protect him in the favour of Elizabeth, and secure him in the possession of his regency.

But while the regent engaged himself in this intrigue with the duke of Norfolk, he was desirous notwithstanding of gratifying the resentments of Elizabeth, and of advancing his own interests by undermining secretly the fame and reputation of his sovereign. He instructed Maitland, George Buchanan, James Macgill, and John Wood, to go to the duke of Norfolk, the earl of Suffex, and Sir Ralph Sadler, and to communicate to them as private persons, and not in their character of commissioners, the letters to Bothwell, and the other proofs upon which he affirmed the guilt of the queen of Scots. It was his desire that they would examine these papers, give their opinion of them to Elizabeth, and inform him whether she judged them sufficient evidences of Mary's concern in the murder of her husband. If this should be her opinion, he testified his own readiness, and that of his associates, to swear that the papers were genuine, and of the hand-writing of the queen. By this operation, he was solicitous to establish his vouchers as incontestable, and as testimonies of record. The commissioners examined his papers, and heard the comments of Buchanan and his other assistants; but they do not seem to have bestowed the fullest credit upon them. They described them, however, to Elizabeth; pointed out the places of them which were strongest against Mary; and allowed that their force and meaning were very great, if their genuineness could be demonstrated. But of their genuineness they acknowledged that they had no other evidence than stout assertions, and the offer of oaths. The earl of Suffex, in a private dispatch to secretary Cecil, does more than insinuate*, that he thought Mary would be able to prove the letters palpable forgeries; and with respect to the murder of the king, he declares in plain terms, that from all he could learn, Murray and his faction would, upon a judicial trial, be found by "proofs hardly to be denied," more criminal in that charge than the queen herself. Elizabeth and her ministers, upon the receipt of such dispatches, did not think it expedient to empower them to adopt a method of proof so palpably suspicious, and in which she could not openly concur, without grossly violating even the appearance of probity. The regent had before attempted to engage her in a direct assurance of the validity of his papers, when he submitted copies of them to her inspection by his secretary Mr Wood. His attempt at this juncture was of a similar kind; and it could not recommend him to the English commissioners.

Nor were these the only transactions which took place during the continuance of the commissioners at York. The inventive and refining genius of Lethington had suggested to him a project, which he communicated in confidence to the bishop of Ross. It received the warm approbation of this ecclesiastic; and they determined to put it to a trial. While they attended the duke of Norfolk to the diversion of hawking, they insinuated into him the notion of his allying himself with the queen of Scots. Her beauty, her accomplish-

730
His ex-
treme in-
dioufness
and hypo-
crisy.

* Robertson
of Dal-
meny's Hi-
story, &c.
book 4.

Scotland. ments, and her kingdom, were high allurements to this nobleman; and as he was the greatest subject of England, and perhaps of Europe, he seemed not to be unworthy of them. The proposal was very flattering to the admiration he entertained of Mary, to his ambition, and to his patriotism. The more he thought of it, he was the more convinced of its propriety. His access to be informed of the practices of the regent, destroyed in him the operation of these slanders by which her enemies were so active to traduce her. In this state of his mind, the lady Scroop, his sister, who resided at Bolton Castle with Mary, completely confirmed his resolution. For from her he learned the orderly carriage and the amiable dispositions of the queen of Scots. He was now impatient to have a fit season to make her formally the offer of his hand.

Elizabeth in the mean time was thrown into confusion by the refusal of the regent to accuse the queen of Scots. To give a positive answer to his doubts and scruples was not consistent with her honour; and yet, without this condescension, she was assured that the Scottish deputies would not exhibit their charge or crimination. Having deceived Mary therefore with fair promises, she was active in gaining over the regent to her views; which having done, he consented at last to prefer his accusation against Mary before the commissioners, who now met at Westminster by the command of Elizabeth. The charge was expressed in general and presumptive terms. It affirmed, that as James earl of Bothwell was the chief executor of the murder of king Henry, so the queen was his persuader and counsel in the device; that she was a maintainer and fortifier of this unnatural deed, by stopping the inquisition into it and its punishment, and by taking in marriage the principal regicide; that they had begun to exercise a cruel tyranny in the commonwealth, and had formed a resolution of destroying the innocent prince, and of transferring the crown from the true line of its kings to a bloody murderer and a godless tyrant; and that the estates of the realm, finding her unworthy to reign, had ordered her to resign the crown, her son to be crowned, and the earl of Murray to be established in the regency. Before this accusation was preferred, the earl of Lenox presented himself before the English commissioners; made a lamentable declaration of his griefs, and produced to them the letters which had passed between him and Mary concerning the murder, with a writing which contained a direct affirmation of her guilt.

732 Remonstrances of the Scots deputies. The deputies of Mary were astonished at this accusation, being a violent infringement of a protestation which they had formerly given in, and which had been accepted, namely, that the crown, estate, person, and honour of the queen of Scots, should be guarded against every assault and injury; yet in all these particulars she was touched and affected. It was understood that no judicial proceedings should take place against her; yet she was actually arraigned as a criminal, and her deputies were called upon to defend her. They discovered not, however, any apprehension of the validity of the charge; and while they fully explained the motives which actuated the earl of Murray and his faction in their proceedings, they imputed to persons among themselves the guilt of the king's murder. They affirmed, that the queen's adversaries were the accomplices of Both-

Scotland. wel; that they had subscribed a bond conspiring the death of the king; and that their guilt had been attested in the sight of 10,000 spectators by those of their confederates who had already been executed. They exclaimed against the enormous ingratitude, and the unparalleled audacity of men, who could forget so completely all the obligations which they owed to their sovereign; and who, not satisfied with usurping her power, could even charge her with a murder which they themselves had committed. They represented the strong necessity which had arisen for the fullest vindication of their mistress; and they said, that in so weighty an extremity, they could not possibly suppose that she would be restrained from appearing in her own defence. They had her instructions, if her honour was touched, to make this requisition; and till it was granted, they insisted, that all proceedings in the conference should be at an end. A refusal of this liberty, in the situation to which she was driven, would be an infallible proof that no good was intended to her. It was their wish to deal with sincerity and uprightness; and they were persuaded, that without a proper freedom of defence, their queen would necessarily fall a victim to partiality and injustice. They therefore earnestly pressed the English commissioners, that she might be permitted to present herself before Elizabeth, the nobles of England, and the ambassadors of foreign nations, in order to manifest to the world the injuries she had suffered, and her innocence.

After having made these spirited representations to the English commissioners, the deputies of Mary desired to have access to the queen of England. *733 They are admitted to an audience by Elizabeth.* They were admitted accordingly to an audience; and in a formal address or petition they detailed what had happened, insisted that the liberty of personal defence should be allowed to their mistress, and demanded that the earl of Murray and his associates should be taken into custody, till they should answer to such charges as should be preferred against them. She desired to have some time to turn her thoughts to matters of such high importance; and told them, that they might soon expect to hear from her.

734 And make proposals of accommodation. The bishop of Ross, and the other deputies of Mary, in the mean time, struck with the perfidious management of the conference, convinced of the jealousies and passions of Elizabeth, sensible that her power over her commissioners was unlimited, and anxious for the deliverance of their mistress, made an overture for an accommodation to the earl of Leicester and Sir William Cecil. They proposed, that the original meaning of the conference should still be adhered to, notwithstanding the accusation which had been presented by the earl of Murray; and that Elizabeth, disregarding it as an effort of faction, should proceed to a good agreement between Mary and her subjects. For this scheme, which is so expressive of their suspicions of Elizabeth and of her commissioners, they had no authority from their mistress. They acknowledged accordingly, that it was made without her instructions, and intimated that they were moved to it by their anxiety for peace and the re-establishment of the affairs of the Scottish nation. They were introduced at Hampton-court to Elizabeth; who listened to their motion, and was averse from it. They then repeated the desires of the petition they had presented to her; but she did not think.

Scotland,
735
Shameful
conduct of
Elizabeth.

think it right that the queen of Scots should yet have the liberty to defend herself in person. She confessed, indeed, that it was reasonable that Mary should be heard in her own cause; but she affirmed, that she was at a loss at what time she should appear, in what place, and to whom she should address herself. While she let fall, however, the hope that Mary might obtain the permission so repeatedly and so earnestly requested, she expressed her resolution that the earl of Murray should first be heard in support of his charge, and that she should attend to the proofs which he affirmed himself in readiness to produce. After this business should be transacted, she told the deputies of Mary that she would again confer with them. It was to no purpose that they objected to a procedure so strange and so improper. An accusation, said they, is given; the person accused is anxious to defend herself; this privilege is denied to her; and yet a demand is to be made for the vouchers of her guilt. What is this but an open violation of justice? It did not become them to dispute her pleasure in her own dominions: but they would not, they informed her, consent to a measure which was so alarming to the interests of their queen; and if it was adopted, she might expect that a protest against its validity would be lodged with her commissioners.

736
Altercation
between
the com-
missioners.

The English commissioners resumed the conference, and were about to demand from the earl of Murray the proofs with which he could support his accusation. The bishop of Ross and his associates being admitted to them, expressed themselves in conformity to the conversation they had held with Elizabeth. They declared, that it was unnatural and preposterous in their sovereign to think of receiving proofs of the guilt of the queen of Scots before she was heard in her own defence; and they protested, that in the event of this proceeding, the negotiation should be dissolved, and Elizabeth be disarmed of all power to do any prejudice to her honour, person, crown, and estate. The commissioners of the English queen were affected with this protestation, and felt more for the honour of their mistress than for their own. They refused to receive it, because there were engrossed in it the words of the refusal which Elizabeth had given to the petition for Mary. They did not choose to authenticate the terms of this refusal by their subscriptions; and were solicitous to suppress so palpable a memorial of her iniquity. They alleged, that the language of her refusal had not been taken down with accuracy; and they pressed Mary's deputies to present a simpler form of protestation. The bishop of Ross and his colleagues yielded not, however, immediately to their insidious importunity; but, repeating anew their protestation as they had at first planned it, included the express words of Elizabeth; and, when compelled by the power of the commissioners to expunge the language of the English queen, they still insisted upon their protestation. An interruption was thus given to the validity of any future proceedings which might affect the reputation of the queen of Scots. The earls of Murray and Morton, with their friends, were very much disappointed. For they had solaced themselves with the hope of a triumph before there was a victory; and thought of obtaining a decree from Elizabeth, which, while it should pronounce the queen of Scots to be an

adulteress and a murderer, would exalt them into the station and character of virtuous men and honourable subjects.

737
Elizabeth
demands
vouchers of
the crimes
laid to Ma-
ry's charge.

Though the conference ought naturally to have terminated upon this protestation of the deputies of Mary against the injustice of Elizabeth, yet it did not satisfy the latter princess that the accusation only had been delivered to her commissioners: she was seriously disposed to operate a judicial production of its vouchers. The charge would thus have a more regular aspect, and be a sounder foundation upon which to build, not only the infamy of the Scottish queen, but her own justification for the part she had acted. Her commissioners accordingly, after the bishop of Ross and his colleagues had retired, disregarding their protestation, called upon the earl of Murray and his associates to make their appearance. The pretence, however, employed for drawing from him his papers was sufficiently artful, and bears the marks of that systematic duplicity which so shamefully characterizes all the transactions of Elizabeth at this period. Sir Nicholas Bacon the lord keeper addressed himself to the earl of Murray. He said, that, in the opinion of the queen of England, it was a matter surprising and strange, that he should accuse his sovereign of a crime most horrible, odious to God and man, against law and nature; and which, if proved to be true, would render her infamous in all the kingdoms of the world. But though he had so widely forgot his duty, yet had not Elizabeth renounced her love of a good sister, a good neighbour, and a good friend; and it was her will, that he and his company should produce the papers by which they imagined they were able to maintain their accusation. The earl of Murray, in his turn, was not wanting in dissimulation. He expressed himself to be very sorry for the high displeasure he had given to Elizabeth by his charge against Mary, and for the obstinacy of the Scottish queen and her deputies, which made it necessary for him to vindicate himself by discovering her dishonour. Under the load of this double and affected sorrow, he made an actual and formal exhibition of the vouchers by which he pretended to fix and establish her criminality. A particular account and examination of these vouchers, the reader will find in our life of MARY, and in the works to which we have there referred.

738
Conclusion
of Mary's
trial.

To enumerate all the shifts to which Elizabeth and the adversaries of Mary were put, in order to make the strange evidence that was produced wear some degree of plausibility, would far exceed our bounds. It is sufficient to say, that after having wearied themselves with prevarication and falsehood; after having pressed Mary to abdicate her crown, a requisition with which she never would comply; and after having finally refused to hear her in her own defence; Elizabeth, on the 10th of January 1569, gave leave to the earl of Murray and his accomplices to depart her dominions; telling them, that since they came into England, nothing had been objected to them which could hurt their honour as men, or affect their allegiance as subjects. At the same time she told them, that they had produced no information or evidence by which she was entitled to conceive any bad opinion of the queen of Scots. It was therefore her pleasure to allow the affairs of Scotland to continue precisely in the condition in which they were situated at the beginning of the conference. Three days

Scotland. days after this, they formally took their leave of the queen of England. The deputies of Mary remonstrated, protested, and argued, to no purpose; the English privy-council, with the most provoking indifference, told them, that "the earl of Murray had promised to their sovereign, for himself and his company, to return to England at any time she should call upon him. But, in the mean time, the queen of Scots could not, for many strong reasons, be suffered to take her departure out of England. As to her deputies, they would move Elizabeth to allow them to return to Scotland; and they believed that she would not detain them."

739
Earl of
Murray,
&c. charged
with the king's
murder,
and challenged
to single combat.

Mary was exceedingly disappointed and chagrined by this singular issue of her cause. Her friends during this period had increased, and the cruel and injurious treatment she had met with was so flagrant, that the earl of Murray and his faction were apprehensive of a sudden reverse of fortune. The earls of Argyle and Huntley protested against the injustice of their proceedings, at the same time that they openly accused the earl of Murray and Maitland of Lethington as the associates of Bothwell in the murder of the king. This charge, according to the custom of the times, they offered to prove as true and certain by the law of arms; and they protested, that if their adversaries should delay to answer their challenge, they should be held as confessing themselves guilty of the murder. Elizabeth, however, foreseeing something of this kind, had dismissed Murray and his adherents with precipitation, so that there could now be no formal production of it before the English commissioners. However, it was known and published in the court of Elizabeth. Murray made an evasive reply, and Lethington made none at all.

740
Mary committed
to closer confinement.

This, however, afforded no relief to the unhappy queen of Scotland. Her inveterate and treacherous enemy held her fast, and endeavoured by every method in her power to render her life miserable. Mary, on the other hand, never lost either her spirit or her dignity. She attempted to rouse in the minds of her nobles that passion for liberty which had once so much distinguished the Scottish nation, but which now seemed to be exchanged for a servile subjection to the queen of England. But some dispatches which pressed these topics being intercepted, Mary was removed from Bolton to Tutbury castle, where she was intrusted to the earl of Shrewsbury, and committed to closer confinement than she had yet experienced; while Elizabeth dispersed manifestoes all over the northern counties of England, complaining of reports injurious to her honour, and disclaiming all hostile intentions towards the liberties of Scotland.

741
The regent
secures
himself in
power.

In the mean time Murray returned to Scotland, where he took every method to establish himself in his ill-acquired power. Mary had commanded the duke of Chatelherault to return to Scotland, in order to raise forces for her behoof; but this nobleman had been long detained in England by the artifices of Elizabeth, so that Murray had arrived there before him. The duke, however, began to raise forces, and might have proved a troublesome antagonist, had not Murray deceived him by a pretended negotiation, and got him into his power; immediately after which he imprisoned him, and forced most of the other lords who were on that side to submit.

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When the news of this important event reached the queen of Scots, she instructed the bishop of Ross to repair to Elizabeth, and to make remonstrances in their behalf. By the agency of this ecclesiastic, whom she had constituted her ambassador, she meant to conduct her transactions with the queen of England; and from the conclusion of the conferences, she had been meditating a proper plan upon which to accomplish her liberty and restoration. The bishop of Ross, after complaining loudly of the rigorous proceedings of the regent, and intimating the general belief which prevailed that he was supported by the English court, pressed the propriety of a final settlement of the affairs of his mistress. With this view, he was admitted by Elizabeth and her privy-counsellors to frequent conferences; and they even desired him to present to them in writing the articles which he was commanded to propose as the foundation of a treaty. He failed not to comply with this injunction; and it was the import of his schedule of agreement, that Mary should engage never to molest Elizabeth, and the lawful heirs of her body, respecting the succession to the crown of England and Ireland, if she could obtain sufficient security that upon their demise her rights would be respected; that a new treaty of alliance and friendship should be concluded between the two queens, by the advice of the estates of both kingdoms; that this league should be ratified by their oaths and seals, and confirmed by parliamentary acts; and, if any farther assurance should be deemed necessary on the part of Mary, that she would procure the kings of France and Spain to be the guarantees of her punctuality and concord; that in compliance with the pleasure of Elizabeth, she would extend her clemency to all her subjects who had offended her, under the provision that they would submit to her sovereignty, deliver up the prince her son, restore her castles, give back her jewels, and surrender to her friends and servants the estates and possessions of which they had been deprived; that the murder of the king should be punished against all the actors in it without delay, and according to the laws; that, to prevent Bothwell from returning to Scotland, and to please those who imagined that it was in his power to excite ferments and trouble, she would be bound to institute a process of divorce against him; and that these articles being adjusted, the queen of England should allow her to proceed to Scotland, under a safe and honourable convoy, to be re-established by the three estates in her realm and government, and to be gratified with the dissolution of all the acts and statutes which had been passed to her prejudice.

Scotland.
742
Negotiations in
England.

These heads of alliance were received with a respect and cordiality which were not usually paid to the transactions of Mary in the court of Elizabeth; and the bishop of Ross was elated with expectation. Their justice, however, was not the sole, or even the chief, cause of this attention and complaisance. A combination of the English nobles had taken place against Cecil, whose power and credit were objects of indignation and jealousy; and the duke of Norfolk had been active and successful in promoting the scheme of his marriage with the queen of Scots. Taking advantage of the condition of parties, he had practised with the principal nobility to encourage his pretensions to Mary; and he secretly communicated to them the promises of

743
Advances
are made
in the pro-
posed marriage
of Mary with
the duke of
Norfolk.

K

support

Scotland. support he had received from the earl of Murray. By the advice and influence of Sir Nicholas Throgmorton, he engaged in his behalf the earl of Leicester; and this nobleman imparted the matter to the earls of Pembroke and Arundel. The duke himself was able to conciliate the favour of the earls of Derby, Bedford, Shrewsbury, Southampton, Northampton, Northumberland, Westmoreland, and Suffex. In the mean time, he was eagerly pressing Mary herself with his suit and importunities; and had mutually exchanged the tokens of a constant and sincere love. It was in this forward state of the match, that the bishop of Ross drew up the schedule of articles for the accommodation of the rival queens.

744
The Eng-
lish nobles
propose ar-
ticles to
Mary.

At the desire of Elizabeth, her privy-council conferred with the bishop upon these articles at different times; and they expressed themselves to be highly pleased with their general import and meaning. Little doubt was entertained of their success; and the earl of Leicester, in order to complete the business, and to serve the duke of Norfolk, undertook to give them a more special force, and to improve them by the introduction of a stipulation about the marriage of the queen of Scots. According to his scheme of agreement, it was required of Mary, that she should be a party to no attempt against the rights and titles of the queen of England, or her heirs; that she should consent to a perpetual league, offensive and defensive, between the two kingdoms; that she should finally establish the Protestant religion in Scotland; that she should admit to her favour those of her subjects who had appeared against her; that if she had made any assignment of her kingdom to the duke of Anjou, in the expectation of a marriage to be contracted between them, it should be dissolved; and that instead of looking to a foreign prince, whose alliance would be dangerous, not only to the religion but to the liberty of the two realms, she would agree to marry the duke of Norfolk, the first peer of England. These articles being communicated to the bishop of Ross, he was desired to transmit them to Mary; but, as they touched upon some points concerning which he had no instructions, he declined this office, and recommended the propriety of their employing a special messenger of their own in a commission of such high importance. They accordingly appointed Mr Candish to go with them to the queen of Scots, and, in a formal dispatch, they extolled the merits of the duke of Norfolk; assured her of the general favour and support of the English nobility, if she should approve of his love: and intimated their belief that Elizabeth would not be averse from a marriage which gave the certain promise of tranquillity and happiness to the two kingdoms. This dispatch was in the handwriting of Leicester; and it was subscribed by this nobleman, and the earls of Arundel and Pembroke, and the lord Lumley.

745
Mary a-
grees to the
treaty pro-
posed to
her.

Mary, in the solitude of her prison, received this application with pleasure. By the lord Boyd she returned a very favourable answer to it; but took the liberty to admonish them of the necessity of their securing the good-will of Elizabeth, lest her dislike of the treaty of the marriage should excite new disasters and misfortunes, and involve the duke of Norfolk in inconveniency and danger. This advice, the suggestion of her delicacy and prudence, did not draw sufficiently

their attention. The duke of Norfolk was now impatient to conclude this great transaction, in which he had engaged himself; and admitted into his councils many nobles whom he had hitherto neglected to court, and many gentlemen who were considerable from their distinction and fortunes. The countenance and consent of the kings of France and Spain were thought necessary to the measures in agitation, and were solicited and obtained. In the universality of the applause with which they were honoured, it was supposed that Elizabeth would be allured into a cordial acknowledgment of their propriety, or be compelled to afford them a reluctant approbation; and so ardent a belief prevailed of their fortunate termination, that the marriage-contract was actually intrusted to the keeping of M. Fenelon the French ambassador.

The activity of the duke of Norfolk with the English nobles did not so much engross his attention as to make him forget the regent. He kept up with him a close correspondence in consequence of the concert into which they had entered, and received the most ample assurances of his fidelity and service. The most sanguine and seducing hopes elated him. The regent, while he stipulated for terms of favour and security to himself and his faction, appeared to be full of the marriage, as a measure from which the greatest advantages would arise to the two kingdoms, to the two queens, and to the true religion. The match, in the meanwhile, was anxiously concealed from Elizabeth; but she was zealously pressed to conclude an accommodation with Mary, on the foundation of the schedule of agreement presented by the bishop of Ross. After having had many conferences with her privy-council, she seemed inclined to treat definitively for the restoration of the queen of Scots, and actually agreed to open the transaction to the regent. The lord Boyd was sent into Scotland upon this business; and while he carried her letters, he was intrusted with dispatches from Mary, the duke of Norfolk, and Sir Nicholas Throgmorton.

As the regent was returning from his northern expedition, he was saluted at Elgin by the lord Boyd, who immediately laid before him the dispatches and instructions with which he had been charged. The queen of England, in her letters, made three propositions in behalf of Mary, and intimated a desire that one of them should be accepted. The queen of Scots, she said, might be restored fully and absolutely to her royal estate: she might be associated in the government with her son, have the title of *queen*, and, till the prince should attain the age of 17 years, the administration might continue in the regent; or she might be permitted to return to Scotland in a private station, and have an honourable appointment to maintain her in a safe and happy obscurity. The dispatches from Mary to the regent desired, that judges might immediately be allowed to inquire into the legality of her marriage with Bothwell: and that, if it was found to have been concluded in opposition to the laws, it should be declared void, and that the liberty be granted to her of entering anew into a matrimonial engagement. The duke of Norfolk expressed to the regent the gratitude he felt for his friendship; promised him the command of the fullest exertions of his consequence and power; intreated him to proceed expeditiously in promoting

746
The pro-
posals of
Elizabeth.

747
The re-
quests of
Mary.

748
Importu-
nities of
Norfolk.

Scotland. promoting the business of the marriage, and referred him to the instructions of lord Boyd for a satisfactory answer to any doubts which might give him disgust or uneasiness. By the letters of Throgmorton, the regent was advertised that the marriage of the queen of Scots with the duke of Norfolk was a certain and decided point; and he was counselled to concur heartily and expeditiously in this transaction, that his consent might not seem to have been extorted. Maitland of Lethington was recommended to him by this statesman, as the person whom he should choose to represent him in the English court, as he could negotiate best the terms and mode of his security and of that of his party. In fine, Throgmorton intreated him not to be troubled with any precise scruples or objections, for that his overthrow, if he resisted, would be inevitable; and, in the view of his services and cordiality, he assured him, that no man's friendship would be accepted with greater affection, and no man's estimation be higher or more fortunate. The zeal of Throgmorton induced him also, upon this occasion, to address to Maitland a dispatch, in which he was infinitely importunate to hasten his expedition to England, in the character to which he recommended him. He complimented him as the fittest person to open the match to the English queen, on the part of the regent and the Scottish nobility; and he represented the success of the scheme to be infallible, as Elizabeth would never be so unwise as to put her own safety, the peace of her kingdom, and the preservation of her people, in competition with the partial devices that might proceed from the vanity and the passions of any person whatsoever. He enumerated the names of the English nobility who had confederated to promote the marriage. He enlarged upon it as an expedient full of wisdom, and as advantageous in the highest degree to religion and the state. He pointed out the lasting and inseparable connection of England and Scotland, as its happy and undoubted consequence. For, if James VI. should die, the sceptres of the two kingdoms might devolve to an English prince; and if he should attain to manhood, he might marry the daughter of the duke of Norfolk, and unite, in his person, the two crowns.

749
Deliberation of the estates on the restoration, &c. of the queen.

These weighty dispatches employed fully the thoughts of the regent. The calls of justice and humanity were loud in the behalf of Mary; his engagements to Norfolk were precise and definitive; and the commission of Elizabeth afforded him the command of the most important services. But, on the other hand, the restoration of Mary, and her marriage, would put an end for ever to his greatness; and, amidst all the stipulations which could be made for his protection, the enormity of his guilt was still haunting him with suspicions and terror. His ambition and his selfish sensibilities were an overmatch for his virtue. He practised with his partisans to throw obstacles in the way of the treaty and the marriage; and, on the pretence of deliberating concerning the restoration of Mary, and on her divorce from Bothwell, a convention of the estates was summoned by him to assemble at Perth. To this assembly the letters of Elizabeth were recited; and her propositions were considered in their order. The full restoration of Mary to her dignity was accounted injurious to the authority of the king, and her association with her son in the government was judged improper

and dangerous; but it was thought that her deliverance from prison, and her reduction to a private station, were reasonable expedients. No definitive decree, however, was pronounced. The letters of Mary were then communicated to this council, and gave rise to vehement debates. She had written and subscribed them in her character of queen of Scotland. This carriage was termed *insolent* and *imperious* by the friends of the regent. They also held it unsafe to examine her requests, till they should be communicated to Elizabeth; and they insinuated, that some inclement and partial device was concealed under the purpose of her divorce from the earl of Bothwell. The favourers of Mary endeavoured to apologize for the form of the letters, by throwing the blame upon her secretaries; and engaged, that while the commissaries, or judges, were proceeding in the business of the divorce, new dispatches in the proper method should be applied for and procured. They were heard with evident symptoms of displeasure; and exclaimed, "that it was wonderful to them, that those very persons who lately had been so violent for the separation of the queen and Bothwell should now be so averse from it." The partisans of the regent replied, "that if the queen was so eagerly solicitous to procure the divorce, she might apply to the king of Denmark to execute Bothwell as the murderer of her husband; and that then she might marry the person who was most agreeable to her." The passions of the two factions were inflamed to a most indecent extremity, and the convention broke up with strong and unequivocal marks of hostility and anger.

Notwithstanding the caution with which Mary and Norfolk carried on their intrigues, intimations of them had come to Elizabeth. Norfolk himself, by the advice of the earl of Pembroke, had ventured to disclose his secret to Sir William Cecil, who affected to be friendly to him. The regent, in answer to her letters, transmitted to her the proceedings of the convention at Perth. The application of Mary for a divorce was a key to the ambitious hopes of the duke of Norfolk. She commanded Sir William Cecil to apply himself to discover the conspiracy. This statesman betrayed the confidence with which he had been entrusted; and Elizabeth, while the duke was attending her at Farnham, discovering a mixture of pleasantry and passion, admonished him to be careful on what pillow he reposed his head. The earl of Leicester, alarmed by his fears, revealed to her at Titchfield the whole proceedings of the duke of Norfolk and his friends. Her fury was ungovernable; and at different times she loaded Norfolk with the severest reproaches and contumely, for presuming to think of a marriage with the queen of Scots without the sanction of her concurrence. Insulted with her discourse and her looks, abandoned by Leicester, and avoided by other nobles in whom he had confided, he felt his courage to forsake him. He left the court at Southampton without taking his leave, and went to London to the earl of Pembroke. New intimations of her displeasure were announced to him, and he retired to his seat at Kinninghall in Norfolk. His friends pressed him to take the field, and to commit his safety to the sword; but having no inclination to involve his country in the miseries of war, he rejected their advice; and addressing an apology to Elizabeth,

Scotland.

750
Elizabeth disappoints the designs of Mary and Norfolk.

Scotland. Elizabeth, protested that he never meant to depart from the fidelity which he owed to her; and that it was his fixed resolution to have applied for her consent to his marriage with the queen of Scots. In return, she ordered him to repair to her court at Windsor; and, as he appeared to be irresolute, a messenger was dispatched to take him into custody. He was first confined to the house of Paul Wentworth, at Burnham, in the neighbourhood of Windsor, and then committed to the Tower. The earls of Pembroke and Arundel, the lord Lumley, Sir Nicholas Throgmorton, and the bishop of Ross, were also apprehended and confined.

751
Mary exposed to new indignities.

Elizabeth, amidst the ferment of her inquietudes, forgot not to gratify her revenge by insulting the queen of Scots. The name of Mary was sufficient to convulse her with anger. The earl of Huntingdon, who affected to have pretensions to the crown of England that were preferable to those of the Scottish princess, was joined with the earl of Shrewsbury in the office of guarding her. His instructions were rigorous, and he was disposed to exceed them. The earl of Shrewsbury considered it as an indignity to have an associate who was a declared enemy to his charge, who had an interest in her death, and who was remarkable for a natural ferocity of disposition. Mary exclaimed against the indelicacy and rudeness of Elizabeth, and protested that all her intentions were commendable and innocent. Huntingdon took a delight in her sufferings. He ransacked her coffers with a view of making discoveries; but her prudence had induced her to destroy all the evidences of her transactions with the duke of Norfolk; and the officious assiduity of this jailor was only rewarded with two cyphers which he could not comprehend. The domestics whom she favoured were suspected and dismissed. Her train of attendants was diminished. An unrelenting watch was kept upon her. No couriers were allowed to carry her dispatches. No messengers were admitted to her presence; and all the letters from her friends were ordered to be intercepted, and to be conveyed to the queen of England.

752
Norfolk betrayed by the regent.

The proceedings of the convention at Perth were afflicting to Elizabeth, to Mary, and to the duke of Norfolk. In the former they created suspicions of the regent; and they were a certain annunciation to the latter, that he was resolved to support himself in the government of Scotland. Uncertain rumours had reached Elizabeth of the interviews he had held with Norfolk in the business of the marriage. Her surprise and indignation were infinite. Mr Wood, who brought from the regent his answer to her letter, was treated with disrespect. Secretary Cecil dispatched instructions to the lord Hunston, the governor of Berwick, to watch his operations with a jealous eye. Elizabeth, by a special envoy, required from him an explanation of his ambiguous carriage. The regent, true to his interests, apologized to her for his connections with the duke of Norfolk, by laying open the design of that nobleman to cut him off, in his way to Scotland, by a full communication of whatever had passed between them in relation to Mary, and by offers of an unlimited submission and obedience.

753
Insurrection in England.

While the duke of Norfolk was carrying on his intrigues with Mary, the scheme of an insurrection for her deliverance was advancing under the direction of

the earls of Northumberland and Westmoreland. Motives of religion were the chief foundation of this conspiracy; and the more zealous Catholics over England were concerned in it. Mary, however, by the advice of the duke of Norfolk, who was afraid of her matching with a foreign prince, did not enter into it with cordiality. It advanced notwithstanding; and the agents of the pope were lavish of exhortations and donations. The duke of Alva, by the order of his master the king of Spain, encouraged the conspirators with the offer of 20,000 men from the Netherlands; and, under the pretence of adjusting commercial disputes, he sent into England Chiapini Vitelli marquis of Celona, an officer of ability, that he might be at hand, and prepare to take the command of them.—The report of an insurrection was universal. Elizabeth kept an army of 15,000 men near her person. The queen of Scots was removed to Coventry, a place of great strength; and if a superior and commanding force should appear before it, her ferocious keeper, it is said, had orders to assassinate her. Repeated commands were sent to the earls of Northumberland and Westmoreland, to repair to court. But the imprisonment of the duke of Norfolk and his friends had struck a panic into them. They conceived that their conspiracy was discovered; and putting themselves at the head of their followers, they issued their manifesto. The restoration of Popery, the establishment of the titles of Mary to the English crown, and the reformation of abuses in the commonwealth, were the avowed objects of their enterprise. But they had embarked in a business for which they were altogether unequal. Their efforts were feeble and desultory. The duke of Alva forgot his promises. Wherever the peace was disturbed by insurgents, there were troops to oppose them. The vigilance of Elizabeth disconcerted with ease the operations of men whom no resources or popularity could have conducted to greatness, and who could neither conquer nor die. The earl of Westmoreland, after concealing himself for some time in Scotland, effected an escape into Flanders, where he passed a miserable and useless existence; and the earl of Northumberland being taken by the regent, was imprisoned in the castle of Lochleven.

As the fury of Elizabeth abated, her resentment to the duke of Norfolk lost its power; and she failed not to distinguish between the intrigues of an honourable ambition, and the practices of an obstinate superstition. It was the result of the examination of this nobleman, and of the confessions of the other prisoners, that Lettington had schemed the business of the marriage, and that the earl of Murray had encouraged it; that her consent was understood to be necessary to its completion; and that Mary herself had warmly recommended the expedient of consulting her pleasure. Upon receiving proper admonitions, the earls of Pembroke, Arundel, the lord Lumley, Sir Nicholas Throgmorton, and the bishop of Ross, were released from confinement; and, after a more tedious imprisonment, the duke of Norfolk himself was admitted to his liberty. This favour, however, was not extended to him till he had not only submissively acknowledged his presumption in the business of the marriage; but had fully revealed whatever had passed between Mary and him, and solemnly engaged himself never more to think of this alliance,

754
Elizabeth liberates Norfolk and his friends.

Scotland. liance, and never more to take any concern whatsoever in her affairs.

755 Maitland of Lethington accused of Darnley's murder. The regent, in the meanwhile, was anxious to recover the good opinion of Elizabeth. Her treatment of Mr Wood, and her discovery of his practices, had excited his apprehensions. He therefore assembled at Stirling a convention of the estates; and taking her letters a second time into consideration, returned her a reply to them by Robert Pitcairn abbot of Dunfermline, in a style suited to her temper and jealousies, and from which she could decisively infer, that no favour of any kind would be shown to the queen of Scots. But this base condescension, though assisted by his treachery to the duke of Norfolk, not being sufficient, in his opinion, to draw completely to him the cordiality of the queen of England, he was preparing to gratify her with another sacrifice. The partiality of Maitland to Mary, and his intrigues with Norfolk and the English malcontents, had rendered him uncommonly obnoxious to Elizabeth and her ministry. The late commotions had been chiefly ascribed to his arts; and it was natural to dread new calamities and tumults from the fruitful spring of his invention. Under the pretence of employing his service in dispatches to England, the regent invited him to Stirling. He was then with the earl of Athol at Perth; and suspecting some improper device, he obeyed the summons with reluctance. When he took his place in the privy-council, Captain Crawford, the minion of the earl of Lenox, who had distinguished himself in the trial of Mary, accused him, in direct terms, of being a party in the murder of the late king. The regent affected astonishment, but permitted him to be taken into custody. He was soon after sent to Edinburgh under a guard, and admonished to prepare for his trial. Upon similar charges, the lord Seton and Sir James Balfour were seized upon and imprisoned.

756 He is protected by Kirkaldy of Grange. Kirkaldy of Grange, the governor of the castle of Edinburgh, who was warmly attached to Maitland, after having remonstrated in vain with the regent on the violence of his conduct, employed address and stratagem in the service of his friend. Under the cover of night, he went with a guard of soldiers to the lodging where Maitland was confined; and showing a forged warrant for taking his person into keeping, got possession of him. Kirkaldy had now in his castle the duke of Chatelherault, the lord Herries, and Maitland. The regent sent for him to a conference; but he refused to obey his message. He put himself and his fortress under the direction of his prisoners. The regent, condescending to pay him a visit, was more lavish than usual of his promises and kindness. His arts, however, only excited the disdain of this generous soldier. Since he could not lead out Maitland to the block, he instituted a process of treason against him, in order to forfeit his estates. Kirkaldy, by the mouth of a trumpeter, desired him to commence similar actions against the earl of Morton and Mr Archibald Douglas, as it was notorious that they were parties to the king's murder. This messenger was likewise charged with delivering a challenge from him to Mr Archibald Douglas, and another from the lord Herries to the earl of Morton. This disappointment, and these indignities, made a deep impression upon the regent; and, in a thoughtful dissatisfied humour, a-

bout this time, he made a short progress towards the English border, courting popularity, and deserving it, by an attention to order and justice.

757 Elizabeth, flattered by his submissive advances, and pleased with his ambition, was now disposed to gratify his fullest wishes; and she perceived, that by delivering to him the queen of Scots, she would effectually relieve herself of a prisoner whose vigour and intrigues were a constant interruption to her repose. A treaty for this purpose was entered into and concluded. The regent was to march an army to the English frontiers, and to receive from her his sovereign into her own dominions, the victim of his power, and the sport of his passions. No hostages and no security were stipulated for her entertainment and good usage. His authority over her was to be without any limits. Upon his part, he was to deliver to Elizabeth the young prince, to put her in possession of the principal forts of Scotland, and to assist her with troops in the event of a war with France. This treaty, so fatal to Mary, and so ruinous to the independence of Scotland, escaped not the vigilance of the bishop of Ross. He complained of it in the strongest terms to Elizabeth; and declared it to be equivalent to a sentence of death against his mistress. The ambassadors of France and Spain were also strenuous in their remonstrances to her upon this subject. All resistance, however, was unavailing; and the execution of the treaty seemed inevitable. Yet how vain are the loftiest schemes of human pride! The career of the regent was hastening to its termination; and the hand of an assassin put a period to his dream of royalty. Scotland did not lose its liberties; but Mary continued to be unfortunate.

758- Death of the regent. James Hamilton of Bothwellhaugh, who had been taken a prisoner at the battle of Langside, obtained his liberty and life; but his estates were forfeited. — His wife, the heiress of Woodhouselie, retired upon this emergency to her paternal inheritance, in the hope that it might escape the rapacity of the regent. He had, however, given it away in a gift to one of his favourites, Sir James Ballenden; and the instruments of his power having the inhumanity to strip her of her garments, and to turn her naked out of her house, in a cold and dark night, she became distracted before the morning. Hamilton vowed revenge; and the regent made a mockery of his threats. This contempt inspired his passions; and the humiliation of the house of Hamilton, to which he was nearly allied, fostered the eagerness of his discontents. The madness of party fermented in him with the atrociousness of rage. His mind reconciled itself to assassination. After watching for some time a proper opportunity to commit his horrible purpose, he found it at Linlithgow. The regent was to pass through this town in his way from Stirling to Edinburgh. Intimations reached him that Hamilton was now to perpetrate his design: and he unaccountably neglected them. The assassin, in a house that belonged to the archbishop of St Andrew's, waited deliberately his approach; and firing his musket from a window, shot him through the body. The wound, when examined, was not judged to be mortal; but the regent finding its pain to increase, prepared himself for death; and in a few hours after he expired. A fleet horse of the abbot of Arbroath's carried the assassin to the palace of Hamilton; and from

Scotland. from thence he soon after effected his escape into France.

759
Lenox
chosen to
succeed
him.

The death of the earl of Murray made no favourable alteration in the affairs of Mary. Confusion and disorder prevailed throughout the kingdom; and though the friends of the queen were promised assistance from France, nothing effectual was done for them. At last the regency was conferred upon the earl of Lenox; an enemy to his queen, and who treated her friends with the utmost rigour. At the same time Elizabeth continued to amuse with negotiations her unhappy rival. She granted liberty to the bishop of Ross to repair to the queen of Scots, who had been removed to Chatworth, and to confer with her on the subject of the intended accord and treaty. Mary, conforming to the advances of Elizabeth, authorised the lord Levingston to pass to her dominions, and to desire her friends to appoint a deputation of their number to give their assistance in promoting the salutary purpose of establishing the tranquillity of their country: and after meeting with some interruptions upon the English borders from the earl of Suffex, this nobleman executed successfully his commission. The queen's lords gave powers to ten nobles to act in a body, or by two of their number, in the intended negotiation: and a safe-conduct from Elizabeth allowed them to enter the English realm, and to remain in it during the space of six months.

760
Articles of
agreement
proposed to
Mary by
Elizabeth.

While the lord Levingston was consulting the interests of Mary with her friends in Scotland, the bishop of Ross was making earnest suit with Elizabeth to proceed in the projected negotiation. His solicitations were not ineffectual; and Sir William Cecil and Sir Walter Mildmay received the instructions of their masters to wait upon the queen of Scots at Chatworth. The heads of accommodation which they proposed were explicit and particular; and the rigour they discovered towards the Scottish princess seemed to vouch their sincerity. It was proposed, that a perfect amity should take place between the two queens; that all the treaties which had formerly been concluded by the two nations should receive an ample confirmation; that the queen of Scots should ratify the treaty of Edinburgh, and forbear from advancing any title or claim to the crown of England during the life of Elizabeth, or to the prejudice of the heirs of her body; that in case of foreign invasions, the two realms should mutually assist each other; that all foreign soldiers should be ordered to depart out of Scotland; that in the future, strangers of the profession of arms should be prohibited from repairing to it, and from taking up their residence in any of its castles or houses of strength; that Mary should hold no correspondence, directly or indirectly, with any subject of England, without the permission of the English queen; that the earl of Northumberland, and the English rebels in Scotland, should be delivered up to Elizabeth; that redress should be given to the subjects of England for the spoils committed upon them by the Scottish borderers; that the murderers of the lord Darnley and the earl of Murray should be duly and effectually punished; that before the queen of Scots should be set at liberty, the young prince her son should be brought into England, and that he should continue in the keeping of Elizabeth till the death of his mother, or till her resignation to him of her crown on at-

taining his majority; that the queen of Scots should not enter into a negotiation for her marriage without the knowledge of the queen of England, nor conclude it without her approbation, or that of the greatest part of the Scottish nobility; that none of the subjects of Scotland should be suffered to go to Ireland without the safe-conduct of Elizabeth; and that Mary should deliver to her sister all the testimonies and writings which had been sent from France, renouncing and disavowing the pretended marriage between her and the duke of Anjou. Besides these articles of agreement, it was proposed by another treaty to adjust the differences of the queen of Scots and her subjects; and Sir William Cecil and Sir Walter Mildmay embraced the present opportunity of conferring with her upon this business, under the pretence of facilitating its management in the future stages of its progress.

During their stay at Chatworth, these statesmen were completely satisfied with the behaviour of the queen of Scots. The candour, sincerity, and moderation, which she displayed, were full assurances to them that upon her part there was no occasion to apprehend any improper policy or art; and the calamities of her condition were a still securer pledge of her compliance. Elizabeth, upon hearing their report, affected to be highly pleased with her sister, and sent a message to the earl of Lenox, instructing him in the conditions which had been submitted to Mary; and desiring him to dispatch commissioners into England to deliberate in the treaty, and to consult his interest and that of his faction. Nor did Mary neglect to transmit to her friends in Scotland the proposed terms of agreement; and the bishop of Ross, who had assisted her in the conferences with Sir William Cecil and Sir Walter Mildmay, conveyed intimations of them to the pope, the king of France, and the duke of Alva; besought their advice, and informed these princes, that unless an effectual relief could be expected from their favour, the necessities of her condition would compel her to subscribe to the hard and humiliating dictates of the queen of England.

But while Mary and her friends were indulging the hope of a termination to her troubles, Elizabeth was secretly giving comfort to her adversaries, and encouraging them to throw obstacles in the way of the treaty. Sir William Cecil wrote to the regent, expressing his disapprobation of the negotiations at Chatworth; desiring him not to be apprehensive of the boastings of the adherents of the queen of Scots; and advising him to make choice of commissioners, in the name of the king, in whose constancy and fortitude he could rely, and whom no address could allure from his interest, or from the common cause in which he and his friends were embarked. The earl of Suffex also sent him dispatches, in which he admonished him to turn his anxious attention to the approaching negotiation, and to insist on secure stipulations for the preservation of the prince, for his own safety, and for a general indemnity to the nobles and their adherents, whose party he had espoused. In every event, he represented it as proper for him to pay the greatest respect to Elizabeth; and, if no treaty should be concluded, he advised him to be prepared for reducing the friends of Mary to obedience, and for defending himself against invasions from abroad. By these artifices, the regent and his faction

Scotland.

761
Mary is de-
sirous to
negotiate.

762
The insin-
cerity of
Elizabeth.

Scotland. faction were inclined to intimate to Elizabeth their warm dissatisfaction with the terms of agreement which she had proposed to Mary; and Pitcairn abbot of Dunfermline, who had been appointed secretary of state in the room of Maitland of Lethington, was deputed to her upon this business. He exclaimed against the treaty as wild and impolitic; and contended, that no stipulations could bind Mary, whose religion taught her to keep no faith with heretics; that her claims to the English crown, and her resentment against the queen of England, as well as her own subjects, would immediately upon her restoration, involve the two kingdoms in blood; and that no peace or quiet could be expected or enjoyed, but by adhering to the salutary maxim of detaining her in a sure and close captivity. Elizabeth did not discourage these inclement sentiments; and Pitcairn was assured by her, that from her natural love to the king, and her regard to the nobles who upheld his authority, she would faithfully provide for their security; and that if justice should appear decisively upon their side, she would even strenuously maintain their quarrel and their consequence.

763
Mary's
commissioners have
an audience
of Eliza-
beth.

Mary had been carried to Sheffield, and was recovering from a feverish indisposition. To this place the bishop of Galloway and the lord Levingston, who had been selected by her friends to be her acting deputies in England, repaired in order to impart to her the state of affairs in Scotland, and to receive her commands. After repeated conferences on the subject of the approaching treaty, she gave them her commission and instructions, and joining them to the bishop of Ross, sent them to Elizabeth. They claimed an audience of this princess, and were admitted to it at Hampton-court. Having presented their credentials, they informed her, that they were ready to conclude a treaty of concord and agreement, upon principles the most extensive and liberal; and, representing to her the impoverished and tumultuous state of their country, they begged her to proceed in the business with expedition. The orders, they said, which they had received, and their own inclinations, disposed them to follow her advice and counsel in all points which were honourable and consistent with reason; and as her protection was the only refuge of the adversaries of their queen, they took the liberty to observe, that it was completely in her power to put a period to all disturbances and animosity, and to accomplish an accord, which would not only confer upon her the highest reputation, but be of the most signal utility to the two kingdoms. Elizabeth declared, that it would please and flatter her in no common degree to advance in the negotiation; and that it was a pain to her that the regent, by his delay in sending commissioners, should discover any aversion from it. This answer was deemed very favourable by the bishop of Ross and his associates; and they obtained her authority to dispatch a messenger to the regent to hasten his operations.

764
The Ro-
man Ca-
tholic pow-
ers advise
Mary to
accept of
the accom-
modation.

In the mean time, Mary received dispatches from the pope, the king of France, and the duke of Alva; and they concurred in recommending it to her to accept of the articles of accommodation which were offered by Elizabeth. The Turk was giving employment to the pope and the king of Spain; Charles IX. already enfeebled by the obstinate valour of the Huguenots, was busy in deceiving them with appearances of peace, and

in plotting their overthrow; and the duke of Alva felt himself insecure in his government of the Netherlands. But while they strongly advised Mary to conclude an agreement with the queen of England, they were yet lavish to her of their expressions of a constant amity; and if the treaty should miscarry, they promised to make the most strenuous exertions in her behalf, and to assist her adherents with money, ammunition, and troops.

The earl of Morton, the abbot of Dunfermline, and Mr James Macgill, had been appointed by the regent and his faction to be their commissioners in the name of the king; and at length their arrival was announced to Elizabeth. Conforming to the spirit of their party, the earl of Morton and his colleagues took an early opportunity to justify to her the deposition of the queen of Scots, and by this means to interrupt the progress of the treaty. In an elaborate memorial, they affected to consider Mary as unworthy to reign, and asserted the constitutional power of the people to curb her ambition, and to throw her down from royalty. They endeavoured to intrench themselves within the authority of laws, civil, canon, and municipal; and they recited opinions to her prejudice by many pious divines. But though the general position, that the people have a title to resist the domination of the sovereign is clear and undubitable; yet their application of it to the queen of Scots was wildly precarious and improper. To speak of her tyranny, and her violation of the rights of her people, was even a wanton mockery of truth and justice; for instead of having assumed an illegal exorbitancy of power, she had suffered in her own person and rights, and had been treated by her subjects with the most cruel and tyrannical insolence. Elizabeth, who was unwilling and afraid to enter anew into the conduct of Mary, who was fully sensible of the insolence of her adversaries, and who did not approve of any maxims that pressed against the majesty of princes, received their memorial with surprise and indignation. She perceived not, she told them, any reason that could vindicate the severity which had been shown to the queen of Scots by her enemies; and advised them to consider, that in the present negotiation it was their proper business to consult the security of the king and of their faction.

765

Upon the part of Elizabeth, the commissioners were the lord keeper Bacon, the earls of Suffolk and Leicester, the lord Clynton, the lord chamberlain, Sir William Cecil, who about this time was created lord Burleigh, Sir Francis Knollys, Sir James Croft, Sir Walter Mildmay, and Sir Thomas Smith. The deputies of Mary were invited to meet with the English commissioners in the house of the lord keeper; and after he had stated the general purposes of the treaty, he intimated to them, that there were two points which required a particular discussion. A proper security, he said, ought to be given by the queen of Scots for her due performance of the stipulations of the agreement with Elizabeth; and it was expedient to concert the mode of the pardon and indemnity which she was to extend to the subjects of Scotland who had offended her. As an assurance of the accommodation with his mistress, he demanded, that the duke of Chatelherault, the earls of Huntley and Argyle, the lords Hume and Herries, with another person of high rank, should be surrendered to her,

Scotland.

765
The regent
and his fac-
tion at-
tempt to
justify the
deposition
of Mary.

Elizabeth's
commis-
sioners hold
conferences
with those
of the
queen of
Scots.

Scotland. her, and remain in England for three years; that the castles of Dumbarton and Hume should be in her possession during the same period; and as to the article concerning the delivery of the prince into her custody, he observed, that it would be required from the regent, the queen of Scots not having the power of its performance. The deputies of Mary, surprised with this language, intreated the English delegates to reflect, that their queen, if deprived of the most faithful of her nobles, and of her strongest forts, could have little desire or ambition to return to her own kingdom; for she would thus be unable to protect herself against the turbulence of her subjects, and be a sovereign without friends, and without strength. They were inclined, they said, to put their commission and powers to the fullest stretch, in order to gratify Elizabeth; and they would agree, that two earls and two barons should be surrendered for two years, as hostages of the fidelity of their sovereign; under the restriction, that they might be exchanged every six months for persons of an equal condition, if they should be desirous of returning to their own country. As to the giving up of any forts or castles, they would not agree to it, because among the other inconveniences of this measure, similar claims would be competent to the king of France, by the spirit of the treaty of Edinburgh, which stipulated, that no French or English troops should be admitted into Scotland. The lord keeper Bacon, resuming his discourse, told them, that the whole realm of Scotland, its prince, nobles, and castles, were an inadequate pledge to the queen of England; and that, if his advice would be followed, the queen of Scots should not obtain her liberty upon any kind of security which could be granted by the Scottish nation. In all public treaties, said the delegates of Mary, no further assurance can be required from a sovereign than what consists with his safety; and when exactions are pressed from a contracting party in a league which are ruinous and impossible, it is understood that a foundation is sought to break off the negotiation. The English commissioners, now interfering in a body, declared upon their honour, that it was the meaning of Elizabeth to agree to the restoration of the queen of Scots to her crown and realm upon receiving sufficient assurances for the articles of the accommodation; that the security offered for her acceptance, should be submitted to her deliberation; and that they would immediately proceed to confer with the deputies for the king of Scots.

767
And with
the king's
deputies.

The English commissioners were not unacquainted with the sentiments of the earl of Morton and his colleagues; and it was from this quarter that they expected a resolute and definitive interruption to the treaty. Nor did these delegates disappoint the expectations conceived of them. After affecting to take a comprehensive view of the articles under debate, they declared, that their commission gave them authority to treat about the amity of the two kingdoms, and the maintenance of the true religion; but that it conferred upon them no power to receive their queen into Scotland, or to surrender to Elizabeth the person of their king. They therefore begged not to be urged to accede to a league which, in some future period, might expose them to a charge of high treason.

768
Elizabeth
obstructs
the treaty.

This singular declaration was considered to be solid and weighty by the English commissioners; and, in a

new conference, it was communicated by them to the deputies of Mary. The bishop of Ross and his associates were disgusted with this formal impertinence. They did not hesitate to pronounce the plea of an insufficient commission from the king to his delegates to be an unworthy and most frivolous subterfuge. The authors, they said, of the deposition of their sovereign did not need any authority but their own to set her at liberty; the prince was not yet five years of age, and could give them no instructions: and the regent was wholly dependent upon the will and pleasure of the queen of England. It was represented in return by the English delegates, that the commission of king James to his deputies, having been perused by Elizabeth, was accounted by her to be insufficient; and that it was her opinion, that the earl of Morton should return to Scotland to hold a parliament for obtaining new powers. The bishop of Ross exclaimed, that the queen of Scots had been amused with deceitful promises, that the prudence of Elizabeth had been corrupted by partial counsels, and that the allegations and pretences held out for interrupting the negotiation were affected and unreal. The instructions, he said, from his sovereign to her commissioners, were to negotiate and to conclude, and not to trifle; and they would not by any means consent to protract, by artificial delays, a treaty which the queen of England, if her intentions were sincere and right, could immediately terminate upon reasonable and honourable terms. His speech and his demeanour he acknowledged to be free and open; and he besought them to excuse him, since, having been made an instrument to abuse his mistress with false hopes, he could not but resent the indignity, and express what he knew and what he felt. The English deputies, addressing him and his colleagues, observed, that as the friends of Mary, and those of the king her son, could not come to an agreement, and as their queen was refused the assurance she expected, they held their commission to be at an end, and were no longer at liberty to negotiate.

The insincerity of Elizabeth, and the failure of the league or agreement, filled Mary with resentment and complaints. Her animosities, and those of Elizabeth, were increased and fortified. She was in haste to communicate to her allies the unworthy treatment she had received; and she sent her commands to her adherents in Scotland to rise up in arms, to repose no trust in truces which were prejudicial and treacherous, and to employ all their resources and strength in the humiliation of the regent and his faction. Elizabeth, who by this time apprehended no enterprise or danger from Charles IX. or the duke of Alva, resolved, on the other hand, to give a strong and effectual support to the king's friends, and to disunite by stratagem, and oppress by power, the partizans of the Scottish princess. The zeal of the bishop of Ross having raised her anger, she commanded him to depart from London; and Mary, in contempt of her mandate, ordered him to remain there under the privilege of her ambassador. The high and unbroken spirit of the Scottish queen, in the midst of her misfortunes, never once awakened the generous admiration of Elizabeth. While it uniformly inflamed her rage, it seems also to have excited her terror. With a pusillanimous meanness, she sent a dispatch to the earl of Shrewsbury, instructing him to keep his charge in the closest

769
The agita-
tion of the
two queens.

Scotland. closest confinement, and to be incessantly on his guard to prevent her escape. He obeyed, and regretted her severity. The expence, retinue, and domestics, of the queen of Scots, were diminished and reduced, and every probable means by which she might endeavour to obtain her liberty were removed from her. The rigours, however, that invaded her person could not reach her mind; and she pitied the tyrant that could add contumely to oppression, and deny her even the comforts of a prison.

770
Dreadful
confusion in
Scotland. All this time Scotland was involved in the miseries of civil war. The friends of Mary were everywhere punished with fines and forfeiture. Private families took the opportunity of the public confusion to revenge their quarrels against each other. Individuals of every denomination ranged themselves on the side either of the regent or of the queen, and took a share in the hostilities of their country. Fathers divided against sons, and sons against their fathers. Acts of outrage and violence were committed in every quarter, while, amidst the general confusion, religion was made the pretence by both parties.

771
The regent
taken prisoner,
and put
to death. In the mean time, though many encounters took place between the two factions, yet neither party seems to have been conducted by leaders of any ability or skill in military affairs. This year, in one of these skirmishes, the regent himself was taken prisoner by a party of the queen's faction, and put to death. But this event made little alteration in the affairs of the nation. The earl of Marre, another of the queen's enemies, was chosen to the regency: but though he proposed to act against her party with rigour, he was baffled before Edinburgh castle, which was still held by her friends; and some bloody skirmishes were fought in the north, where victory declared in favour of the queen. These advantages, however, were more than compensated to the other party by the following event.

772
Norfolk's
conspiracy. While the negotiations with Elizabeth for Mary's restoration were depending, the scheme of a conspiracy for her deliverance was communicated to her by Robert Ridolphi a Florentine, who lived in London many years as a merchant, and who was secretly an agent for the court of Rome. But to his letters, while the fate of the treaty was uncertain, she returned no reply. Its miscarriage, through the duplicity of Elizabeth, recalled them forcibly to her attention, and stimulated her to seek the accomplishment of her liberty by measures bolder and more arduous than any which had been hitherto employed by her. She drew up in cipher an ample discourse of his communications and of her situation, and dispatched it to the bishop of Ross, together with letters for the duke of Norfolk. Her instructions to this ecclesiastic were to convey the discourse and letters expeditiously to Norfolk, and to concert an interview between that nobleman and Ridolphi. The confidential servants by whom the duke acted with the bishop of Ross were Bannister and Barker; and having received from them the discourse and the letters, they were deciphered by Hickford his secretary. Having considered them maturely, he delivered them to Hickford, with orders to commit them to the flames. His orders, however, were disobeyed; and Hickford deposited them, with other papers of consequence, under the mats of the duke's bed-chamber. The contents of the discourse and the let-

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ters awakening the hope and ambition of Norfolk, he was impatient to see Ridolphi; and the bishop of Ross soon brought them together. Ridolphi, whose ability was inspirited by motives of religion and interest, exerted all his eloquence and address to engage the duke to put himself at the head of a rebellion against his sovereign. He represented to him, that there could not be a season more proper than the present for achieving the overthrow of Elizabeth. Many persons who had enjoyed authority and credit under her predecessor were much disgusted; the Roman Catholics were numerous and incensed; the younger sons of the gentry were languishing in poverty and inaction in every quarter of the kingdom; and there were multitudes disposed to insurrection from restlessness, the love of change, and the ardour of enterprise. He insinuated to him, that his rank, popularity, and fortune, enabled him to take the command of such persons with infinite advantage. He insisted upon his imprisonment and the outrages he had sustained from Elizabeth; represented the contempt to which he would expose himself by a tame submission to wrongs; extolled the propriety with which he might give way to his indignation and revenge; and painted out the glory he might purchase by the humiliation of his enemies, and by the full accomplishment of his marriage with the queen of Scots. To give a strength and confirmation to these topics, he produced a long list of the names of noblemen and gentlemen with whom he had practised, and whom he affirmed to be ready to hazard their lives and riches for a revolution in the state, if the duke would enter into it with cordiality. To fix decisively the duke, he now opened to him the expectations with which he might flatter himself from abroad. The pope, he assured him, had already provided 100,000 crowns for the enterprise; and if Popery should be advanced in England, he would cheerfully defray the whole charges of the war. The king of Spain would supply 4000 horse and 6000 foot, which might be landed at Harwich. Charles IX. was devotedly attached to the queen of Scots, notwithstanding the treaty which had been entered upon with Elizabeth for her marriage with his brother the duke of Anjou: and when he should discover that, on the part of the English princess, this matrimonial scheme was no better than a device or a mockery, he would renounce the appearance of friendship he had assumed, and return to his natural sentiments of disdain and hatred with redoubled violence. In fine, he urged, that while he might depend on the assistance and arms of the greatest princes of Christendom, he would intitle himself to the admiration of all of them by his magnanimous efforts and generous gallantry in the cause of a queen so beautiful and so unfortunate.

773
The duke of Norfolk, allured by appearances so plausible and flattering, did not scruple to forget the duties of a subject, and the submissive obligation in which he had bound himself to Elizabeth never more to interfere in the affairs of the Scottish princess. Ridolphi, in this forward state of the business, advised him to address letters to the Pope, the king of Spain, and the duke of Alva, expressive of his concurrence in the design, and inspiriting their activity and resolutions. He even produced dispatches framed for this purpose; and while he intreated the duke to subscribe them, he offered to carry them himself to Flanders,

L

Rome,

Scotland.

Discovered
by the mi-
nisters of
Elizabeth.

Scotland. Rome, and Spain. The duke of Norfolk, who was ambitious and timid, disposed to treason, and unfit for it, hesitated whether he should subscribe the letters; and at length refused to proceed to that extremity. He yet allowed the bishop of Ross, and Barker his servant, to go to the Spanish ambassador to express his approbation of the measures of Ridolphi, to acknowledge that the letters were according to his mind, and to empower this statesman to certify their authenticity to his court. Ridolphi, full of hopes, set out to execute his commission. He passed first to the duke of Alva, to whom he communicated the transactions in which he had been engaged, and with whom he held many conferences. There was at this time at Bruxelles Charles Bailly, a servant of the queen of Scots; and Ridolphi, after disclosing to him his proceedings with Alva, entrusted him with letters to her to the duke of Norfolk, the Spanish ambassador, and the bishop of Ross. When this messenger reached Calais, a letter was delivered to him from the bishop of Ross, desiring him to leave his dispatches with the governor of that place. From inexperience and vanity he neglected this notice; and being searched at Dover, his letters, books, and clothes were seized, and he himself was sent to London, and imprisoned in the Marshalsea. The bishop of Ross, full of apprehensions, applied to lord Cobham, the warden of the cinque ports, who was friendly to the duke of Norfolk; and obtaining by his means the packet of dispatches from Ridolphi, he substituted another in its place, which contained letters of no danger or usefulness. He had also the dexterity to convey intelligence of this trick to Bailly, and to admonish him to preserve a profound silence, and not to be afraid. This simple and unpractised agent had, however, excited suspicions by the symptoms of terror he had exhibited upon being taken, and by exclaiming, that the dispatches he brought would involve his own destruction and that of others. At his first examination he confessed nothing: but being sent to the tower, and put upon the rack, he revealed his conversations with Ridolphi, and declared, that the dispatches which he had brought had been delivered to the bishop of Ross. An order was granted for taking the bishop into custody. Having been aware, however, of his perilous situation, his house was searched in vain for treasonable papers; and he thought to screen himself from answering any interrogatories under the sanctity of his character as the ambassador of an independent prince.

774 The duke's friends and servants give evidence against him. An unexpected incident excited, in the meanwhile, new suspicions and alarms. Mary being desirous of transmitting 2000 crowns to the lord Herries to advance her interests in Scotland, the duke of Norfolk undertook to convey it to him with safety. He intrusted it to the charge of his confidants Hickford and Barker, who putting it into a bag with dispatches from their master to lord Herries, ordered a servant called *Brown* to carry it to Bannister; who, being at this time on the border, could forward it to Scotland. Brown, suspicious or corrupted, instead of proceeding on his errand, carried the bag and its contents to Sir William Cecil, now lord Burleigh. The privy-council, deeming it treason to send money out of the realm for the use of the friends of Mary, whom they affected to consider as enemies, ordered Hickford and Barker to be

apprehended. The rack extorted from them whatsoever they knew to the prejudice of their master. Hickford gave intelligence of the fatal discourse and the letters from Mary, which he had preserved in opposition to the orders given to him. All the proceedings between the queen of Scots, the duke of Norfolk, the bishop of Ross, and Ridolphi, were brought to light. A guard was placed upon the house of the duke of Norfolk, in order to prevent his escape. Sir Ralph Sadler, Sir Thomas Smith, Sir Henry Nevil, and Dr Wilson, were commissioned to examine him; and being impressed with the belief that the discourse and the letters had been destroyed, he positively denied that he had any concern in the affairs of the queen of Scots, or any knowledge of them whatsoever. He was committed to the tower a close prisoner. Bannister by this time was taken; and he confirmed the relations of Hickford and Barker. In the course of their discoveries, there appeared reasons of suspicion against many persons of rank and distinction. The earls of Arundel and Southampton, the lord Cobham, Mr Thomas Cobham his brother, Sir Thomas Stanley, Sir Henry Percy, and other gentlemen who were friendly to the queen of Scots and the duke of Norfolk, were ordered to be lodged in different prisons; and the rack, and the expectation of a pardon, drew from them the fullest confessions. The duke was altogether unable to defend himself. The concurring testimonies of his friends and servants, with the discourse and the letters, which he fondly imagined had been committed to the flames, were communicated to him. He was overwhelmed with amazement and distress; and exclaimed, that he had been betrayed and undone. He made ample acknowledgments of his guilt, and had no foundation of hope but in the mercy of his sovereign.

By the confession of the duke himself, and from all the inquiries which had been made by the ministers of Elizabeth, it appeared obvious beyond a doubt, that the bishop of Ross had been the principal contriver of the conspiracy. Ridolphi had acted under his direction, and he had inspired the duke of Norfolk. He had even proceeded to the extremity of advising that nobleman to put himself at the head of a select band of adherents, and to seize boldly the person of Elizabeth. In his examinations he was treated with great rigour and insult. But he made an able defence, and peremptorily refused to make any answer to interrogatories. The counsellors of Elizabeth were disturbed with his obstinacy; and having certified him, that the rack would soon render him more pliant, he was ordered into close keeping in a dark apartment of the tower.—When he had remained a few days in this melancholy situation, four privy-counsellors, the lord admiral, the lord Burleigh, Sir Francis Knollys, and Sir Thomas Smith, went to the tower, and caused him to be brought to them to the lieutenant's lodging. After having assured him that he was charged by all the prisoners as the principal contriver of the conspiracy, they insisted, in the name of their sovereign, that he should explain fully the part he had acted. The confessions of the duke of Norfolk and his servants, of the lord Lumley, Sir Thomas Stanley, and other gentlemen, with the discourse and dispatches of the queen of Scots, were set before him. They now protested

Scotland. upon their honour, that if he would make a free and open declaration of his proceedings, it should neither be employed against himself, nor against any other person; but that if he should continue to be resolute in refusing to give this satisfaction to their queen, who was anxious to search the matter to the bottom, they were instructed to let him know, that she would absolutely consider him as a private person, and order him to be tried and executed as a traitor. In this extremity he accepted the conditions held out to him, and disclosed minutely all the transactions of the principal parties in the conspiracy. But while he described the offences of his mistresses, the duke of Norfolk, and himself, he could not avoid to detract from their blame by apologies. It was natural, he said, for the queen of Scots to exert the most strenuous endeavours in her power to recover her freedom and crown; and the methods she adopted to obtain her purposes ought to be considered in connection with the arts of Elizabeth, who pertinaciously denied her access to her presence, who kept her a close prisoner in contempt of all the principles of humanity and justice, and who afforded an open and powerful assistance to her enemies. The duke of Norfolk he was earnest to excuse on the foundation of the advances which had been made in his marriage with the queen of Scots. Their plighted love, and their engagements, did not allow him to forsake her. As for himself, he was her ambassador and her servant; and being highly indebted to her generosity and kindness, he could not abandon her in captivity and distress without incurring the guilt of the most sinful treachery and ingratitude. The daring proposal he had made to seize the person of Elizabeth was the point, he observed, which seemed to press upon him the most severely; and he intreated them to believe, that he had moved it only with the view of trying the courage of the duke of Norfolk.—The privy-counsellors of Elizabeth were now in possession of all the evidence they could expect in this important business. Norfolk was admonished to prepare for his trial; and bishop Lesly perceived, that though he might escape with his life, he would never more be permitted to reside in England, and to act there as the ambassador, the minister, and the friend of the queen of Scots.

776 Mary's affairs ruined by the failure of Norfolk's conspiracy, The defeat of the duke of Norfolk's conspiracy was a blow to Mary which she could never recover. Her most faithful friends were languishing in prisons upon her account; she had no longer the counsels of the bishop of Ross; and the Spanish ambassador, who had entered into her concerns with an unscrupulous cordiality, had been ordered to withdraw from England. The trial and condemnation of Norfolk soon followed, and plunged her into the most calamitous distress.

777 And by the massacre of Paris. The massacre of the Protestants at Paris in 1572 proved also extremely detrimental to her. It was interpreted to be a consequence of the confederacy which had been formed at Bayonne for the extermination of the reformed. The Protestants were everywhere transported with rage against the Papists. Elizabeth prepared herself against an attack from the Roman Catholic powers; and was haunted with the notion that they meant to invade her kingdom, and to give it to the queen of Scots. Her ambassador at Paris, Sir Francis Walsingham, augmented her apprehensions and terror. He compared her weakness with the strength of her ene-

mies, and assured her that if they should possess themselves of Scotland, she would soon cease to be a queen. He represented Mary as the great cause of the perils that threatened her personal safety and the tranquillity of her kingdom; and as violent diseases required violent remedies, he scrupled not to counsel her to unite Scotland to her dominions, and to put to death a rival whose life was inconsistent with her security. The more bigotted Protestants of Scotland differed not very widely in their sentiments from Sir Francis Walsingham; while those of them who were more moderate were still more attached to their religion than to Mary; and amidst the indignation and horror into which the subjects of Scotland were thrown by the sanguinary outrages of Charles IX. and Catharine de Medicis, they surveyed the sufferings of their sovereign with a diminished sympathy.

This year the regent, finding himself beset with difficulties which he could not overcome, and the affairs of the nation involved in confusion from which he could not extricate them, died of melancholy, and was succeeded by the earl of Morton.

During the regency of the earl of Marre, a remarkable innovation took place in the church, which deserves to be particularly explained, being no less than the introduction of Episcopacy instead of the Presbyterian form of worship. While the earl of Lenox was regent, the archbishop of St Andrew's was put to death, because he was strongly suspected to have had a concern in the death of the earl of Murray; after which the earl of Morton procured a grant of the temporalities of that see. Out of these he allotted a stipend to Mr John Douglas, a Protestant clergyman, who took upon him the title of archbishop. This violence excited censure and murmurs. In the language of the times, it was pronounced to be a profanation of the kirk, and a high contempt of God; and it underwent the scrutiny of the ministry in applications and complaints to the regent. The matter was doubtless of too much importance to be overlooked; and a commission of privy-counsellors and clergymen was appointed in the name of the king to inquire into it, and to reform and improve the policy of the church. This commission, upon the part of the privy-council, consisted of the earl of Morton, the lord Ruthven, Robert abbot of Dunfermline, Mr James Macgill, Sir John Ballenden, and Colin Campbell of Glenorchie; and upon the part of the church there were named John Erskine of Dun, and Mr John Winram, Mr Hay, Mr Lindsay, Mr Pont, and Mr John Craig. The consultations and debates were long; and the influence and management of the earl of Morton directed their determinations. It was resolved, that till the majority of the king, or till the wisdom of the three estates should be consulted, the titles of archbishop and bishop should continue as in the times which preceded the reformation; and that a chapter of learned ministers should be annexed to every metropolitan or cathedral seat. It was determined that the sees, as they became vacant, should be given to those of the Protestant ministry who were most eminent for their qualifications; that the archbishops and bishops should exercise no higher jurisdiction than what was permitted to superintendants; and that they should be subject to the controul of the general assemblies of the church. It was agreed, that all abbots, priors, and other

Scotland. 778 Walsingham counsels Elizabeth to put Mary to death.

779 The regent dies, and is succeeded by Morton.

780 Episcopacy introduced into Scotland.

Scotland. other inferior prelates presented to benefices, should be examined by the bishop or superintendant of the diocese or precinct where the preferment was situated; and that their fitness to represent the church in parliament should be duly inquired into. It was judged that the king and the regent should recommend qualified persons to vacant bishoprics, and that the elections of them should be made by the chapters of the respective cathedrals. It was ordered that all benefices with cure under prelaties should only be disposed of to officiating ministers; that every minister should receive ordination from the bishop of the diocese, or the superintendant of the province; and that the bishops and superintendants, upon the ordination of ministers, should exact an oath from them to recognize the authority of the king, and to pay canonical obedience to their ordinary in all things that were lawful.

By these artful regulations the earl of Morton did not mean solely to consult his own rapacity or that of the nobles. The exaltation of the Protestant church to be one of the three estates was a consequence of them; and the clergy being the strenuous enemies of Mary, he might by their means secure a decided influence in parliament. The earl of Marre, as regent, giving his sanction to the proceedings of the commission, they were carried into practice. The delusive expectation of wealth, which this revival of Episcopacy held out to the ministry, was flattering to them; and they bore with tolerable patience this severe blow that was struck against the religious policy of Geneva. Mr John Douglas was desired to give a specimen of his gifts in preaching; and his election took effect, notwithstanding the opposition that was made to it by John Knox and other ecclesiastics, who stood up for the rules and forms which had been established at the reformation. He was inaugurated in his office by the bishop of Caithness, Mr John Spotswood superintendant of Lothian, and Mr David Lindsay, who violating the book of discipline, communicated to him his character and admission by the imposition of hands. This was a singular triumph to Episcopacy; and the exaltation of Douglas included other peculiarities remarkable and offensive. He denied that he had made any simoniacal agreement with the earl of Morton; yet it was known that the revenues of the archbishopric were almost wholly ingrossed by that nobleman. He had promised to resign, upon his instalment, the office of rector which he held in the university of St Andrew's: yet he refused to execute this engagement. He was in a very advanced age; and his mental qualifications, which had never been eminent, were in a state of decay.

A general assembly, which was holden at St Andrew's, considering the high moment of the new regulations introduced into the church, appointed commissioners to go to John Knox, who was at this time indisposed, and to consult with him deliberately in his house, whether they were agreeable to the word of God. But from the arts of the nobles, or from the sickness of Knox, it happened that this conference was not carried into execution. In a general assembly, however, which met at Perth, the new polity was reported and examined. The names of archbishop, dean, arch-deacon, chancellor, and chapter, were excepted against as Popish distinctions, and as slanderous to the ears of pious Christians. A wish was expressed that they might

be exchanged for titles less profane and superstitious; *Scotland.* and an unanimous protestation was made, that the new polity was merely a temporary expedient, and should only continue and prevail till a more perfect order should be obtained from the king, the regent, and the nobility. This tolerating resolution left the new polity in its full force; and a colourable foundation was now established for the laity to partake in the profits of bishoprics. The simoniacal paction of Morton and Douglas was not long a matter of singularity. Mr James Boyd was appointed to the archbishopric of Glasgow, Mr James Paton to the bishopric of Dunkeld, and Mr Andrew Graham to the see of Dunblain; and these compromising ecclesiastics, upon being allowed competencies to themselves, gratified their noble friends with the greatest proportion of their revenues. The virtue of the common people approved not this spirit of traffic; and the bishops of the new polity were treated openly with reproach or with ridicule.

The year 1572 is also remarkable for the death of *781* John Knox, whose mistaken zeal had contributed not a little to bring upon the queen those misfortunes with which she was now oppressed. Neither by his death, however, nor by the change of the regency, could she now be relieved. The earl of Morton was so much devoted to Elizabeth, that he received particular instructions from her how to guide the young king. His elevation, indeed, gave the finishing stroke to the queen's affairs. He employed himself with success in dividing *782* her party among themselves, and by his means the duke of Chatelherault and the earl of Huntley were induced to forsake her. As for Elizabeth, she was bent on putting Mary to death; but as no crime could be alleged against her in England, she thought it proper that she should be carried back to suffer death in her own dominions. This proposal, however, was rejected; and the friends who remained true to Mary once more began to indulge themselves in hopes of succours from France. New misfortunes, however, awaited them.—*783* The castle of Edinburgh, which had hitherto been held for the queen by Kirkaldy of Grange, was obliged to surrender to an English army commanded by Sir William Drury. Kirkaldy was solemnly assured by the English commander of his life and liberty; but Elizabeth violated this capitulation, and commanded him to be delivered up to the regent. An hundred of his relations offered to become vassals to Morton, and to pay him 3000 merks yearly, if he would spare his life; but in vain: Kirkaldy and his brother Sir James were hanged at Edinburgh. Maitland of Lethington, who was taken at the same time, was poisoned in the prison-house of Leith.

The jealousy of Elizabeth did not diminish with the decline of Mary's cause. She now treated her with *784* more rigour than ever, and patronised Morton in all the enormities which he committed against her friends. Lessly bishop of Ross had been long imprisoned in England, on account of his concern in the duke of Norfolk's conspiracy. Morton earnestly solicited the queen to deliver him up, and would undoubtedly have put him to death; but as he had acted in the character of ambassador from Mary, this was judged impolitic, and the prelate was suffered to depart for France. When he arrived there, he endeavoured in vain to stir up the emperor, the pope, and the duke of Alva, to exert themselves

Scotland. selves in behalf of the queen of Scotland; and, in 1574, the misfortunes of his royal mistress were farther aggravated by the death of Charles IX. of France, and her uncle the cardinal of Lorraine. The regent, in the mean time, ruled with the most despotic sway. He twice coined base money in the name of his sovereign; and after putting it into circulation the second time, he issued orders for its passing only for its intrinsic value. The duke of Chatelherault happening to die this year, the regent took every method of ruining all those of his name and family. He committed to prison all the Hamiltons, and every person of distinction who had fought for the queen at the battle of Langside, and compelled them to buy their liberty at an exorbitant price. He instigated Douglas of Lochleven to assassinate lord Arbroath, and it was with difficulty that the latter escaped the ambush that was laid for him. Reid, the bishop of Orkney, having left his estate to pious and charitable uses, the regent prohibited the execution of the will, and took upon himself the administration. To be rich was a sufficient crime to excite his vengeance. He entered the warehouses of merchants, and confiscated their property; and if he wanted a pretence to justify his conduct, the judges and lawyers were ready at his call.

785
Death of
Charles IX.
and the
duke of
Lorraine.

786
Oppression
and vio-
lence of
Morton.

787
Opposition
to Episco-
pacy.

In this disastrous period the clergy augmented the general confusion. Mr Andrew Melvil had lately returned from Geneva; and the discipline of its assembly being considered by him as the most perfect model of ecclesiastical policy, he was infinitely offended with the introduction of Episcopacy into Scotland. His learning was considerable, and his skill in languages was profound. He was fond of disputation, hot, violent, and pertinacious. The Scottish clergy were in a humour to attend to him; and his merit was sufficient to excite their admiration. Instigated by his practices, John Drury, one of the ministers of Edinburgh, called in question, in a general assembly, the lawfulness of the bishops, and the authority of chapters in electing them. Melvil, after commending his zeal and his motion, declaimed concerning the flourishing state of the establishment of Geneva; and having recited the opinions of Calvin and Beza upon ecclesiastical government, maintained, that there should be no office-bearers in the church whose titles were not seen in the book of God. He affirmed, that the term *bishop* was nowhere to be found in it in the sense in which it was commonly understood, as Christ allowed not any superiority among ministers. He contended that Christ was the only lord of his church, and that the ministers of the word were all equal in degree and power. He urged, that the estate of the bishops, beside being unlawful, had grown unseemly with corruptions; and that if they were not removed out of the church, it would fall into decay, and endanger the interests of religion. His sentiments were received with flattering approbation; and though the archbishop of Glasgow, with the bishops of Dunkeld, Galloway, Brechin, Dumblain, and the Isles, were present in this assembly, they ventured not to defend their vocation. It was resolved, that the name of

bishop conferred no distinction or rank; that the office was not more honourable than that of the other ministers; and that by the word of God their functions consisted in preaching, in administering the sacraments, and in exercising ecclesiastical discipline with the consent of the elders. The Episcopal estate, in the meanwhile, was watched with anxious observation; and the faults and demerits of every kind, which were found in individuals, were charged upon the order with rudeness and asperity. In a new assembly this subject was again canvassed. It was moved, whether bishops, as constituted in Scotland, had any authority for their functions from the Scriptures? After long debates, it was thought prudent to avoid an explicit determination of this important question. But a confirmation was bestowed upon the resolution of the former assembly; and it was established as a rule, that every bishop should make choice of a particular church within his diocese, and should actually discharge the duties of a minister.

The regent, disturbed with these proceedings of the brethren, was disposed to amuse and to deceive them. He sent a messenger to advise them not to infringe and disfigure the established forms; and to admonish them, that if their aversion from Episcopacy was insurmountable, it would become them to think of some mode of ecclesiastical government to which they could adhere with constancy. The assembly taking the advantage of this message, made a formal intimation to him, that they would diligently frame a lasting platform of polity, and submit it to the privy-council. They appointed, accordingly, a committee of the brethren for this purpose. The business was too agreeable to be neglected; and in a short time Mr David Lindsay, Mr James Lawson, and Mr Robert Pont, were deputed to wait upon the regent with a new scheme of ecclesiastical government. After reminding him, that he had been a notable instrument in purging the realm of Popery, and begging that he would consult with them upon any of its articles which he thought improper or incomplete, they informed him, that they did not account it to be a perfect work to which nothing could be added, or from which nothing could be taken away; for that they would alter and improve it, as the Almighty God might farther reveal his will unto them. The regent, taking from them their schedule, replied, that he would appoint certain persons of the privy-council to confer with them. A conference was even begun upon the subject of their new establishment; but from his arts, or from the troubles of the times, no advances were made in it.

This year the earl of Bothwell died in Denmark; and in his last moments, being stung with remorse, he confessed that he had been guilty of the king's murder, revealed the names of the persons who were his accomplices, and with the most solemn protestations declared the honour and innocence of the queen. His confession was transmitted to Elizabeth by the king of Denmark; but was suppressed by her with an anxious solicitude.

The regent still continued his enormities, till having rendered

788
Death of
Bothwell.

789
Morton is
compelled
to resign his
office of re-
gent.

(v) Jebb, Vol. II. p. 227. It has never been published. Keith and other historians have preserved what they call the earl of Bothwell's declaration at his death, and account it to be genuine. Their partiality for Mary induced them the more easily to fall into this mistake. The paper they give is demonstratively a forgery; and the want of the real confession of Bothwell is still a deficiency in our history.

Scotland.

rendered himself obnoxious to the best part of the nobility, he was, in 1577, compelled to resign his office into the hands of James VI. ; but as his majesty was then only twelve years of age, a general council of twelve peers was appointed to assist him in the administration. Next year, however, the earl of Morton having found means to gain the favour of the young king, procured the dissolution of this council; and thus being left the sole adviser of the king, he hoped once more to be raised to his former greatness. This could not be done, however, without keeping the king in a kind of captivity, so that nobody could have access to him but himself. The king, sensible of his situation, sent a dispatch to the earls of Argyle and Athole, intreating them to relieve him. An army for this purpose was soon raised; and Morton's partisans were in danger of being defeated, had not the opposite party dreaded the vengeance of Elizabeth, who was resolved to support the earl of Morton. In consequence of this a negotiation was entered into, by which it was agreed, that the earl of Argyle, with some others, should be admitted into the king's council; and that four noblemen should be chosen by each party to consider of some proper method of preserving tranquillity in the nation.

790
He poisons
the earl of
Athole.

This pacification did not greatly diminish the power of Morton. He soon got rid of one of his principal antagonists, the earl of Athole, by poisoning him at an entertainment; after which he again gave a loose rein to his resentments against the house of Hamilton, whom he persecuted in the most cruel manner. By these means, however, he drew upon himself a general hatred; and he was supplanted in the king's favour by the lord d'Aubigny, who came from France in the year 1579, and was created earl of Lenox. The next year Morton was suspected of an intention to deliver up the king to Elizabeth, and a guard was appointed to prevent any attempts of this kind. The queen of England endeavoured to support her zealous partisan; but without effect. He was tried, condemned, and executed, as being concerned in the murder of Darnley. At the place of execution, it is said that he confessed his guilt; but of this the evidence is not quite satisfactory. It is however certain that he acknowledged himself privy to the plot formed against the life of the king; and when one of the clergymen attending him before his execution observed, that by his own confession he merited death in foreknowing and concealing the murder, he replied "Ay but, Sir, had I been as innocent as St Stephen, or as guilty as Judas, I must have come to the scaffold. Pray, what ought I to have done in this matter? You knew not the king's weakness, Sir. If I had informed him of the plot against his life, he would have revealed it even to his enemies and those concerned in the design; and I would, it may be, have lost my own life, for endeavouring to preserve his to no purpose."

791
Is con-
demned and
executed for
the murder
of Darnley.

792
Monstrous
cruelty of
Elizabeth
to Mary.

The elevation of king James, and the total overthrow of Morton, produced no beneficial consequences to the unfortunate Mary. In the year 1581, she addressed a letter to Castelnau the French ambassador, in which she complained that her body was so weak, and her limbs so feeble, that she was unable to walk. Castelnau therefore intreated Elizabeth to mitigate a little the rigours of Mary's confinement; which being refused, the latter had thoughts of resigning her claims to

the crown both of England and Scotland into the hands of her son, and even of advising him to use every effort in his power to establish his claim to the English crown as preferable to that of Elizabeth. But being apprehensive of danger from this violent method, she again contented herself with sending to the court of England ineffectual memorials and remonstrances. Elizabeth, instead of taking compassion on her miserable situation, assiduously encouraged every kind of disorder in the kingdom, on purpose to have the queen more and more in her power. Thus the Scottish malcontents finding themselves always supported, a conspiracy was at last entered into, the design of which was to hold James in captivity, and to overthrow the authority of Arran and Lenox, who were now the principal persons in the kingdom. The chief actors in this conspiracy were the earls of Gowrie, Marre, and Glencairn, the lords Lindsay and Boyd, with the masters of Glamis and Oliphant. By reason of the youth and imbecillity of the king, they easily accomplished their purpose; and having got him in their power, they promised him his liberty, provided he would command Lenox to depart the kingdom. This was accordingly done; but the king found himself as much a prisoner as before. The more effectually to detain him in custody, the rebels constrained him to issue a proclamation, wherein he declared himself to be at perfect liberty. Lenox was preparing to advance to the king's relief with a considerable body of forces, when he was disconcerted by the king's peremptory command to leave Scotland; upon which he retired to Dumbarton, in order to wait for a more favourable opportunity. The earl of Arran, being more forward, was committed to close custody for some time, but afterwards confined only in his house of Kinneil. The rebels took upon them the title of "lords for the reformation of the state."

The clergy, who had all this time been exceedingly averse to Episcopacy, now gave open countenance to the lords of the reformation. On the 13th of October 1582, they made a solemn act, by which the *raid of Ruthven*, as the capture of the king was called, was deemed a service most acceptable to all who feared God, respected the true religion, and were anxious for the preservation of the king and state; and every minister was commanded to declaim from his pulpit upon the expediency of this measure, and to exhort the people to concur with the lords in prosecuting the full deliverance of the church, and the perfect reformation of the commonwealth. Not satisfied with this approbation of the clergy, the conspirators got their proceedings approved by the states of Scotland, as "a good, a thankful, and a necessary service to the king." At the same time it was enacted, that no suit civil or criminal of any kind should ever be instituted against the persons concerned in it. Soon after this, Lenox took his leave of Scotland, and sailed for France, where he died.

The unfortunate Mary was driven to despair when she heard that her son was taken prisoner by rebels who had been instigated by Elizabeth. In this distress, she addressed a most spirited letter to Elizabeth, in which she at once asserted her own innocence, and set forth the conduct of Elizabeth herself in such language as must have put the most impudent of her adversaries to the

793
The king
taken pri-
soner.

794
which is
approved
of by the
clergy.

795
Mary
writes to
Elizabeth.

Scotland.
796
Who acts
with her
usual per-
fidy.

the blush. Elizabeth could not reply, and therefore had recourse to her usual arts of treacherous negotiation. New terms were proposed to Mary, who would gladly have submitted almost to any thing, provided she could procure her freedom. It was proposed, as had often been done before, to associate the queen of Scots with her son in the government; but as this was to be referred to the king, who was in the hands of Elizabeth's friends, and to the parliament, who were under the power of the same faction, it is easy to see that no such association ever could take place, or indeed was ever intended.

797
French am-
bassadors
insulted in
Scotland.

After the death of Lenox, the conspirators apprehended no further danger, little supposing that a prince so young and unexperienced could deliver himself from captivity. This, however, in the year 1583, he effected in the following manner. A convention of the estates had been summoned to meet at St Andrew's. James, whom the earl of Arran, notwithstanding his confinement at Kinneil, had found means to instruct and advise, pretended a desire of visiting his grand-uncle the earl of March, who resided at St Andrew's, and was for that purpose permitted to repair thither a few days before the convention. The better to deceive the earls of Gowrie, Angus, and Marre, who attended him, he took up his lodgings in an old inn, which was quite open and defenceless. But having expressed a desire to see the castle of St Andrew's, he was admitted into it; and colonel Stuart, who commanded the castle, after admitting a few of his retinue, ordered the gates to be shut. The earls of Argyle, Marischal, Montrose, and Rothes, who were in concert with the king, hastened to make him an offer of their swords. The opposite faction, being unprepared for hostilities, were filled with consternation. Of all the conspirators, the earl of Gowrie alone was admitted into the king's presence, by the favour of colonel Stuart, and received his pardon. The earls of March, Argyle, Gowrie, Marischal, and Rothes, were appointed to be a council for assisting the king in the management of his affairs; and soon after this James set out for Edinburgh. The king no sooner found himself at liberty, than, by the advice of his privy council, he issued a proclamation of mercy to the conspirators; but they, flattering themselves with the hopes of support from Elizabeth, obstinately refused to accept of his pardon. In consequence of this, they were denounced rebels. Elizabeth failed not to give them underhand all the encouragement she could, and the clergy uttered the most seditious discourses against the king and government; and while they railed against Popery, they themselves maintained openly the very characteristic and distinguishing mark of Popery, namely, that the clerical was entirely independent of the civil power.

799
Earl of
Gowrie
condemned
and execu-
ted.

At last the rebels broke forth into open hostilities; but by the vigilance of Arran, the earl of Gowrie, who had again begun his treasonable practices, was committed to custody; while the rest, unable to oppose the king, who appeared against them with a formidable army, were obliged to fly into England, where Elizabeth, with her usual treachery, protected them.

The earl of Gowrie suffered as a traitor; but the severity exercised against him did not intimidate the clergy. They still continued their rebellious practices, until the king being informed that they were engaged

in a correspondence with some of the fugitive lords, citations were given to their leaders to appear before the privy-council. The clergymen, not daring to appear, fled to England; and on the 20th of May 1584, the king summoned a convention of the estates, on purpose to humble the pride of the church in an effectual manner. In this assembly the raid of Ruthven was declared to be rebellion, according to a declaration which had formerly been made by the king. And, as it had grown into a custom with the promoters of sedition and the enemies of order, to decline the judgment of the king and the council, when called before them to answer for rebellious or contumelious speeches, uttered from the pulpit or in public places, an ordination was made, asserting that they had complete powers to judge concerning persons of every degree and function; and declaring, that every act of opposition to their jurisdiction should be accounted to be treason. It was enacted, that the authority of the parliament, as constituted by the free votes of the three estates, was full and supreme; and that every attempt to diminish, alter, or infringe, its power, dignity, and jurisdiction, should be held and punished as treason. All jurisdictions and judgments, all assemblies and conventions, not approved of by the king and the three estates, were condemned as unlawful, and prohibited. It was ordained, that the king might appoint commissioners, with powers to examine into the delinquencies of clergymen, and, if proper, to deprive them of their benefices. It was commanded, that clergymen should not for the future be admitted to the dignity of lords of the session, or to the administration of any judicature civil or criminal. An ordination was made, which subjected to capital punishment all persons who should inquire into the affairs of state with a malicious curiosity, or who should utter false and slanderous speeches in sermons, declamations, or familiar discourse, to the reproach and contempt of the king, his parents, and progenitors. It was ordered that a guard, consisting of 40 gentlemen, with a yearly allowance to each of 200 l. should continually attend upon the king. This parliament, which was full of zeal for the crown, did not overlook the history of Buchanan, which about this time was exciting a very general attention. It commanded, that all persons who were possessed of copies of his chronicle, and of his treatise on the Scottish government, should surrender them within 40 days, under the penalty of 200 l. in order that they might be purged of the offensive and extraordinary matters they contained. This stroke of tyranny was furious and ineffectual. Foreign nations, as well as his own countrymen, were filled with the highest admiration of the genius of Buchanan. It was not permitted that his writings should suffer mutilation; they were multiplied in every quarter; and the severity exercised against them only served the more to excite curiosity, and to diffuse his reputation.

While the parliamentary acts, which struck against the importance of the church, were in agitation, the ministers deputed Mr David Lindsay to solicit the king to support that no statutes should pass which affected the ecclesiastical establishment, without the consultation of the general assembly. But the earl of Arran having intelligence of this commission, defeated it, by committing Mr Lindsay to prison as a spy for the discontented nobles. Upon the publication, however, of these acts

Scotland.
800
Proceed-
ings against
the clergy.

801
Attempts
to suppress
Buchanan's
history.

802
The clergy
endeavour
themselves
against the
civil power.

Scotland by the heralds, Mr Robert Pont minister of St Cuthbert's, and one of the senators of the court of session, with Mr Walter Balcanqual, protested formally in the name of the church, that it dissented from them, and that they were consequently invalid. Having made this protestation, they instantly fled, and were proclaimed traitors. By letters and pamphlets, which were artfully spread among the people, their passions were roused against the king and his council. The ministers of Edinburgh took the resolution to forsake their flocks, and to retire to England. And in an apology circulated by their management, they anxiously endeavoured to awaken commiseration and pity. They magnified the dangers which threatened them; and they held out, in vindication of their conduct, the example of the prophets, the apostles, the martyrs, and of Christ himself, who all concurred, they said, in opposing the ordinations of men, when contradictory to the will of heaven, and in declining the rage of the enemies of God. The king appointed his own chaplains and the archbishop of St Andrew's to perform the ministerial functions in his capital. The clergy over Scotland were commanded to subscribe a declaration, which imported the supremacy of the king over the church, and their submission to the authority of the bishops. The national ferments still increased in violence. Many ministers refused to subscribe this declaration, and were deprived of their livings. It was contended, that to make the king supreme over the church was no better than to set up a new pope, and to commit treason against Jesus Christ. It was urged, that to overthrow assemblies and presbyteries, and to give dominion to bishops, was not only to upset the established polity of the church, but to destroy religion itself. For the bishops were the slaves of the court, were schismatical in their opinions, and depraved in their lives. It was affirmed, that heresy, atheism, and popery, would strike a deep root, and grow into strength. And the people were taught to believe, that the bishops would corrupt the nation into a resemblance with themselves; and that there everywhere prevailed dissimulation and blasphemy, persecution and obscenity, the profanation of the scriptures, and the breach of faith, covetousness, perjury, and sacrilege. It was reported abroad, that the ministers alone were entrusted with ecclesiastical functions, and with the sword of the word; and that it was most wicked and profane to imagine, that Jesus Christ had ever committed the keys of the kingdom of heaven to civil magistrates and their servants or deputies.

While the clergy were thus impotently venting their wrath, Elizabeth, alarmed beyond measure at this sudden revolution, and terrified by a confession extorted by the rack from one Francis Throgmorton, concerning a combination of the Catholic princes to invade England, began to treat with Mary in a more sincere manner than usual; but having gained over to her side the earl of Arran, the only man of activity in Scotland, she resolved to proceed to extremities with the queen of Scots. The Roman Catholics, both at home and abroad, were inflamed against her with a boundless and implacable rage. There prevailed many rumours of plots and conspiracies against her kingdom and her life. Books were published, which detailed her cruelties and injustice to Mary in the most indignant lan-

guage of reproach, and which recommended her assassination as a most meritorious act. The earl of Arran had explained to her the practices of the queen of Scots with her son, and had discovered the intrigues of the Catholic princes to gain him to their views. While her sensibilities and fears were severely exercising to her, circumstances happened which confirmed them in their strength, and provoked her to give the fullest scope to the malignity of her passions. Crichton, a Scottish Jesuit, passing into his own country, was taken by Netherland pirates; and some papers which he had torn in pieces and thrown into the sea being recovered, were transmitted to England. Sir William Wade put them together with dexterity; and they demonstrated beyond a doubt, that the invasion of England was concerted by the Pope, the king of Spain, and the duke of Guise. About this time, too, a remarkable letter was intercepted from Mary to Sir Francis Englefield. She complained in it that she could have no reliance upon the integrity of Elizabeth, and that she expected no happy issue to any treaty which might be opened for her restoration and liberty. She urged the advancement of the "great plot;" she intimated, that the prince her son was favourable to the "designment," and disposed to be directed by her advice; she intreated, that every delicacy with regard to her own state and condition should be laid aside without scruple; and she assured him, that she would most willingly suffer perils and dangers, and even death itself, to give relief to the oppressed children of the church. These discoveries, so exasperating to the inquietudes and distresses of Elizabeth, were followed by a deep and general consternation. The terror of an invasion spread itself with rapidity over England; and the Protestants, while they trembled for the life of their champion, were still more alarmed with the dangers which threatened their religion.

In this state of perplexity and distraction, the counsellors of Elizabeth did not forget that they had been her instruments in persecuting the queen of Scots, and of the severities with which she had treated the Roman Catholics. They were fully sensible, that her greatness and safety were intimately connected with their own; and they concurred in indulging her fears, jealousies, and resentment. It was resolved that Mary should perish. An association was formed, to which persons of every condition and degree were invited. The professed business of this association or society was the preservation of the life of Elizabeth, which it was affirmed was in danger, from a conspiracy to advance some pretended title to the crown; and its members vowed and protested, by the majesty of God, to employ their whole power, their bodies, lives, and goods, in her service; to withstand, as well by force of arms as by other methods of revenge, all persons, of whatsoever nation or rank, who should attempt in any form to invade and injure her safety or her life, and never to desist from the forcible pursuit of them till they should be completely exterminated. They also vowed and protested, in the presence of the eternal God, to prosecute to destruction any pretended successor by whom, or for whom, the detestable deed of the assassination of Elizabeth should be attempted or committed. The earl of Leicester was in a particular manner the patron of this association; and the whole influence of Elizabeth and her ministers

Scotland. ministers was exerted to multiply the subscriptions to a bond or league which was to prepare the way, and to be a foundation for accomplishing the full destruction and ruin of the Scottish queen.

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She proposes a scheme of accommodation.

A combination so resolute and so fierce, which pointed to the death of Mary, which threatened her titles to the crown of England, and which might defeat the succession of her son, could not fail to excite in her bosom the bitterest anxieties and perturbation. Weary of her sad and long captivity, broken down with calamities, dreading afflictions still more cruel, and willing to take away from Elizabeth every possible pretence of severity, she now framed a scheme of accommodation, to which no decent or reasonable objection could be made. By Naw, her secretary, she presented it to Elizabeth and her privy-council. She protested in it, that if her liberty should be granted to her, she would enter into the closest amity with Elizabeth, and pay an observance to her above every other prince of Christendom; that she would forget all the injuries with which she had been loaded, acknowledge Elizabeth to be the rightful queen of England, abstain from any claim to her crown during her life, renounce the title and arms of England, which she had usurped by the command of her husband the king of France, and reprobate the bull from Rome which had deposed the English queen. She likewise protested, that she would enter into the association which had been formed for the security of Elizabeth; and that she would conclude a defensive league with her, provided that it should not be prejudicial to the ancient alliance between Scotland and France; and that nothing should be done during the life of the English queen, or after her death, which should invalidate her titles to the crown of England, or those of her son. As a confirmation of these articles, she professed that she would consent to stay in England for some time as an hostage; and that if she was permitted to retire from the dominions of Elizabeth, she would surrender proper and acceptable persons as sureties. She also protested, that she would make no alterations in Scotland; and that, upon the repeal of what had been enacted there to her disgrace, she would bury in oblivion all the injuries she had received from her subjects: that she would recommend to the king her son those counsellors who were most attached to England, and that she would employ herself to reconcile him to the fugitive nobles: that she would take no steps about his marriage without acquainting the queen of England; and that, to give the greater firmness to the proposed accommodation, it was her desire that he should be called as a party to it: and, in fine, she affirmed, that she would procure the king of France and the princes of Lorraine to be guarantees for the performance of her engagements. Elizabeth, who was skilful in hypocrisy, discovered the most decisive symp-

807
Hypocrisy and treachery of Elizabeth.

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toms of satisfaction and joy when these overtures were communicated to her. She made no advances, however, to conclude an accommodation with Mary; and her ministers and courtiers exclaimed against lenient and pacific measures. It was loudly insisted, that the liberty of Mary would be the death of Elizabeth; that her association with her son would be the ruin both of England and Scotland; and that her elevation to power would extend the empire of Popery, and give a deadly blow to the doctrines of the reformation.

In the mean time, an act of attainder had passed against the fugitive nobles, and their estates and honours were forfeited to the king; who, not satisfied with this, sent Patrick master of Gray to demand a surrender of their persons from the queen of England. As this ambassador had resided some time in France, and been intimate with the duke of Guise, he was recommended to Mary: but being a man of no principles, he easily suffered himself to be corrupted by Elizabeth; and while he pretended friendship to the unfortunate queen, he discovered all that he knew of the intentions of her and her son. The most scandalous falsehoods were forged against Mary; and the less she was apparently able to execute, the more she was said to design. That an unhappy woman, confined and guarded with the utmost vigilance, who had not for many years sufficient interest to procure a decent treatment for herself, should be able to carry on such close and powerful negotiations with different princes as were imputed to her, is an absurdity which it must for ever be impossible to reconcile. That she had an amour with her keeper the earl of Shrewsbury, as was now reported, might be; though of this there is no proof. This, however, could scarce be treason against Elizabeth (x): yet, on account of this, Mary was committed to the charge of Sir Amias Paulet and Sir Drue Drury, zealous puritans, and who, it was hoped, would treat her with such severity as might drive her to despair, and induce her to commit some rash action. — The earl of Leicester, said to be Elizabeth's paramour, even ventured to send assassins, on purpose, by the murder of Mary, at once to deliver his mistress from her fears. But the new keepers of the castle, though religious bigots, were men of strict probity, and rejected with scorn such an infamous transaction. In 1585, Mary began to feel all the rigours of a severe imprisonment. She had been removed from Sheffield to the castle of Tutbury; and under her new keepers she experienced a treatment which was in the highest degree unjust, disrespectful, and acrimonious. Two apartments or chambers only were allotted to her, and they were small and inconvenient, meanly furnished, and so full of apertures and chinks, that they could not protect her against the inclemencies of the weather. The liberty of going abroad for pleasure or exercise was denied

Scotland.

808
False reports raised against the queen of Scots.

809
Assassins sent to murder her.

810
She is confined, and cruelly treated.

M

nied

(x) Amidst the infamous calumnies which this princess was solicitous to fix upon the queen of Scots, it must excite the highest indignation to consider her own contempt of chastity, and the unprincipled licentiousness of her private life. See Haynes's Collect. of State Papers, p. 99, &c. — Even when palsied with age, she was yet burning with unquenchable desires; and vain of her haggard and cadaverous form, sought to allure to her many lovers. See Murdin, p. 558; 560, 657, 718, 719. and the discoveries of a writer, whose pen, elegant, poignant, inquisitive, and polite, improves and embellishes every topic that it canvasses; Walpole, Catalogue of royal and noble Authors, vol. i. p. 126. [Stuart, vol. ii. p. 282, note.]

^{Scotland} nished to her. She was assailed by rheumatisms and other maladies; and her physician would not undertake to effect a cure, or even to procure her any ease, unless she should be removed to a more commodious dwelling. Applications for this purpose were frequently made, and uniformly rejected. Here, however, her own afflictions did not extinguish in her mind her sensibility for the misfortunes of others; and she often indulged herself in the satisfaction of employing a servant to go through the village of Tutbury in search of objects of distress, to whom she might deal out her charity. But her inhuman keepers, envying her this pleasure, commanded her to abstain from it. Imputing their rigour to a suspicious fidelity, she desired that her servant might, on these occasions, be accompanied by one of the soldiers of their guard, or by the constable of the village. But they would not alter their prohibition. They refused to her the exercise of the Christian duty of dispensing an alms; and they would not allow her the soft consolation of moistening her eye with sorrows not her own. To insult her the more, the castle of Tutbury was converted into a common jail. A young man, whose crime was the profession of the Romish religion, was committed to a chamber which was opposite to her window, in order that he might be persecuted in her sight with a pestilent cruelty. Notwithstanding his cries and resistance, he was dragged every morning to hear prayers, and to join in the Protestant worship; and after enduring several weeks this extraordinary violence to his conscience, he was unmercifully strangled without any form of law or justice. Mary remonstrated with warmth to Elizabeth against indignities so shocking and so horrible; but instead of obtaining consolation or relief, she was involved more deeply in wo, and exposed to still harder inventions of malice and of anger.

811
Elizabeth
shows dis-
sension be-
tween Ma-
ry and her
son.

In the midst of her misfortunes, Mary had still solaced herself with hope; and from the exertions of her son she naturally expected a superlative advantage. He had hitherto behaved with a becoming cordiality; and in the negociation which she had opened with him for her association in the government, he had been studious to please and flatter her. He had informed her by a particular dispatch, that he found the greatest comfort in her maternal tenderness, and that he would accomplish her commands with humility and expedition; that he would not fail to ratify her union and association with him in the government; that it would be his most earnest endeavour to reconcile their common subjects to that measure; and that she might expect from him, during his life, every satisfaction and duty which a good mother could promise to herself from an affectionate and obedient son. But these fair blossoms of kindness and love were all blasted by the treacherous arts of Elizabeth. By the master of Gray, who had obtained an ascendant over James, she turned from Mary his affections. He delayed to ratify her association in the government; and he even appeared to be unwilling to press Elizabeth on the subject of her liberty. The master of Gray had convinced him, that if any favour was shown to Mary by the queen of England, it would terminate in his humiliation. He assured him, that if his mother were again to mount the Scottish throne, her zeal for Popery would induce her to seek a husband in the house of Austria; that

she would dissolve his association with her in the go-^{Scotland} vernment, on the pretence of his attachment to the reformed doctrines; and that he would not only lose the glory of his present power, but endanger his prospects of succession. Mary expostulated with him by letter upon the timidity and coldness of his behaviour; and he returned her an answer full of disrespect, in which he intimated his resolution to consider her in no other character than as queen-mother. Her amazement, indignation, and grief, were infinite. She wrote to Castelnau the French ambassador to inform him of her inquietudes and anguish. "My son (said she) is ungrateful; and I desire that the king your master shall consider him no longer as a sovereign. In your future dispatches, abstain from giving him the title of king. I am his queen and his sovereign; and while I live, and continue at variance with him, he can at the best be but an usurper. From him I derive no lustre; and without me he could only have been lord Darnley or the earl of Lenox; for I raised his father from being my subject to be my husband. I ask from him nothing that is his; what I claim is my own; and if he persists in his course of impiety and ingratitude, I will bestow upon him my malediction, and deprive him not only of all right to Scotland, but of all the dignity and grandeur to which he may succeed through me. My enemies shall not enjoy the advantages they expect from him. For to the king of Spain I will convey, in the amplest form, my claims, titles, and greatness."

Elizabeth having thus found means to sow dissen-⁸¹² sion between the queen of Scots and her son, did not fail to make the best use she could of the quarrel for her own advantage. The Pope, the duke of Guise, Alliance of the Popish powers against Elizabeth. and the king of Spain, had concluded an alliance, called the *holy league*, for the extirpation of the Protestant religion all over Europe. Elizabeth was thrown into the greatest consternation on this account; and the idea of a counter association among the Protestant princes of Europe immediately suggested itself. Sir Edward Wotton was deputed to Scotland; and so completely gained upon the imbecility of James, that he concluded a firm alliance with Elizabeth, without making any stipulation in favour of his mother. Nay, so far was he the dupe of this ambassador and his mistress, that he allowed himself to be persuaded to take into his favour Mr Archibald Douglas, one of the murderers of Lord Darnley; and, as if all this had not been sufficient, he appointed this assassin to be his ambassador for England.

813
Mean and
shameful
behaviour
of James.

Mary, thus abandoned by all the world, in the hands of her most inveterate and cruel enemy, fell a victim to her resentment and treachery in the year 1587. A plot of assassination had been formed in the spring of the year 1586 against the English queen; partly with a view to rescue the Scottish princess; but chiefly from a motive to serve the interests of the Roman Catholic religion. This conspiracy, which originated with Roman Catholic priests and persons of little note, was soon imparted to Mr Babington, a person of great fortune, of many accomplishments, and who had before that time discovered himself to be a zealous friend of queen Mary. That she had corresponded with Babington there is no doubt; but it was some years previous to the formation of the plot. A long silence had taken place between them; and Morgan, one

814
Account of
Babington's con-
spiracy against Elizabeth.

Scotland. one of the English fugitives in France, and a warm friend of Mary's, in the month of May 1586, wrote a letter to her, repeatedly and in the most pressing manner recommending a revival of that correspondence. In consequence of which, in her answer to Morgan, dated the 27th day of July, she informed him, that she had made all apologies in her power to Babington, for not having written to him for so long a space; that he had generously offered himself and all his fortune in her cause; and that, agreeably to Morgan's advice, she would do her best to retain him in her interests; but she throws out no hint of her knowledge of the intended assassination. On the very same day she wrote likewise to Paget, another of her most confidential friends; but not a word in it with respect to Babington's scheme of cutting off the English queen. To Morgan and to Paget she certainly would have communicated her mind, more readily and more particularly than to Babington, and have consulted them about the plot, had she been accessory to it. Indeed it seems to have been part of the policy of Mary's friends to keep her a stranger to all clandestine and hazardous undertakings in her favour. To be convinced of this, we have only to recollect, that Morgan, in a letter of the fourth of July, expressly, and in the strongest terms, recommended to have no intelligence at all with Ballard*, who was one of the original contrivers of the plot, and who was the very person who communicated it to Babington. The queen, in consequence of this, shut the door against all correspondence, if it should be offered, with that person†. At the same time, Morgan assigned no particular reasons for that advice; so cautious was he about giving the queen any information upon the subject: What he said was generally and studiously obscure: "Ballard (said he, only) is intent on some matters of consequence, the issue of which is uncertain." He even went farther, and charged Ballard himself to abstain in anywise from opening his views to the queen of Scots.

* *Murdis*,
327.

† *Ibid.* 534.

The conspiracy which goes under the name of *Babington* was completely detected by the court in the month of June: The names, proceedings, and residences, of those engaged in it were then known: The blow might be soon struck: The life of Elizabeth was in imminent hazard. The conspirators, however, were not apprehended; they were permitted to enjoy complete liberty; treated as if there were not the least suspicion against them; and in this free and quiet state, were they suffered to continue till the beginning of August, for a period it should seem of near two months. What could be the reasons for such a conduct? From what causes, did the council of England suspend the

just vengeance of the laws, and leave their queen's life still in jeopardy? Was it on purpose to procure more conspirators, and involve others in the crime?

Mary queen of Scots continued still detached from Babington and his associates. Their destruction was a small matter compared with her's. Could she be decoyed into the plot, things would put on a very new face: Babington's conspiracy, which in reality occasioned little dread, as it was early found out, and well guarded against, would prove one of the most grateful incidents in queen Elizabeth's reign. Elizabeth's ministers, too, knew how much they had rendered themselves justly obnoxious to the Scottish princess: Should she come to mount the throne of England, their downfall was inevitable; from which, it should seem, is to be explained, why they were even more zealous than their mistress to accomplish her ruin.

Of these, Sir Francis Walsingham secretary of state appears to have taken upon himself the chief management in concerting a plan of operations against the queen of Scots; and as a model, he seems to have had in his eye that which was pursued upon a former occasion by the earl of Murray. His spies having early got into the confidence of the lower sort of the conspirators, he now employed the very agency of the latter for his purposes. Learning that a packet from France was intended to be conveyed by them to queen Mary, and by the hands of one Gilbert Gifford a priest, whom he had secretly gained over from their association, he wrote a letter to Sir Amias Paulet, who had now the custody of the Scottish queen, requesting that one of his domestics might be permitted to take a bribe for conveying that packet to the captive princess. This was on purpose to communicate to her a letter forged in the name of Babington, in which that conspirator was made to impart to the Scottish queen his scheme of assassination, and to claim rewards to the perpetrators of the deed. Paulet, however, to his honour, refused to comply with the request of Walsingham; upon which Gifford corrupted a brewer in the neighbourhood, who put his letters to Mary in a hole in the castle-wall. By the same conveyance it was thought that Mary would answer the letters; but it appears that she never saw them, and that of course no return was made (v). It was then contrived that answers, in the name of the queen of Scots to Gifford, should be found in the hole of the wall. Walsingham, to whom these letters were carried, proceeded formally to decipher them by the help of one Thomas Philips, a person skilled in these matters; and after exact copies were taken of them, it is said that they were all artfully sealed and sent off to the persons to whom they were directed.

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treachery
of Eliza-
beth and
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sters.

M 2

directed.

(v) Dr Robertson of Dalmeny, who, in his History of Mary queen of Scots, has thrown much light upon those dark transactions of Elizabeth's nefarious ministers, thinks it not improbable that an answer to Babington's letter was written by the Scottish queen's secretaries. Although they could not communicate that letter to herself, on account of her known abhorrence of assassination, they perhaps wrote a dispatch in her name, approving of it; tempted by the prospect of escaping from imprisonment, and of their mistress being seated on the throne of England. This dispatch being conveyed through the same chink of the wall, was carried by Gifford to Walsingham; opened; deciphered, and copied by him; and then sent to Babington. Camden informs us, that Walsingham artfully forged a postscript in the same cipher to this dispatch; in which queen Mary was made to request of Babington to inform her particularly of the names of his accomplices, and of others who were friends to the cause.

Scotland.

directed. It appears, however, that only the letters directed to Babington were sent to him; and the answers which he made to the queen's supposed letters were carried directly to Walsingham. A foundation for criminating Mary being thus laid, the conspirators were quickly discovered, as being already known, and suffered the death of traitors. The unhappy princess, eagerly watched by Paulet, and unacquainted with the late occurrences, received a visit from Sir Thomas Gorges. This envoy, as instructed by Elizabeth, surprised her when she had mounted her horse to take the pleasure of the chase. His salutation was abrupt and uncere- monious; and after informing her of the discovery and circumstances of the conspiracy of Babington, he rudely charged her with a concern in it. Her astonishment was great, and she desired to return to her chamber: but this favour was refused to her; and after being carried from one house to another, in an anxious and perplexing uncertainty, she was committed to Fotheringay castle in Northamptonshire. Naw and Curl, her two secretaries, the former a Frenchman, the latter a native of Scotland, were taken into custody. Paulet breaking open the doors of her private closet, possessed himself of her money, which amounted not to more than 7000 crowns. Her cabinets were carefully sealed up; and being sent to London, were examined in the presence of Elizabeth. They contained many dispatches from persons beyond the sea, copies of letters which had been dictated by her, and about 60 tables of ciphers and characters. There were also discovered in them many dispatches to her from English noblemen, which were full of admiration and respect. These Elizabeth concealed; but their authors suspecting that they were known, sought to purchase her forgiveness by the most abject protestations of an attachment to her person, and by the exercise of the most inveterate enmity to the queen of Scots. Naw and Curl declared, that the copies of her letters were in their handwriting. They had been dictated by her in the French language to Naw, translated into English by Curl, and then put into cipher. They contained not, however, any matters with which she could be reproached or criminated. It was upon the foundation of the letters which Gifford had communicated to Walsingham that her guilt was to be inferred; and with copies of these, and with an attested account of the conspiracy of Babington and his associates, Sir Edward Wotton was now dispatched into France to accuse her to Henry III. and to explain to him the dangers to which Elizabeth was exposed from the machinations and practices of the English exiles.

816
Mary is
charged
with the
conspira-
cy.

817
Delibera-
tions on the
method of
proceeding
against her

The privy-counsellors of Elizabeth deliberated upon the most proper method of proceeding against Mary. To some it appeared, that as she was only accessory to the plot, and not the designer of it, the most eligible severity to be exercised against her was a closer and more rigorous confinement; and they endeavoured to fortify this opinion, by observing, that she was sickly, and could not live long. By others who were haunted by the terrors of Popery, it was urged, that she ought to be put instantly to death by the formalities of the law. The earl of Leicester recommended it as most prudent to dispatch her secretly by poison. But this counsel was rejected as mean, disgraceful, and violent. The lawyers were of opinion, that she might be tried upon

the statute of Edward III.; by which it was enacted Scotland. to be treason to imagine the destruction of the sovereign, to make war against his kingdom, or to adhere to his enemies. Elizabeth, however, and her ministers had provided a more plausible foundation for her trial. This was a parliamentary statute approving the act of association. As it had been passed while Mary was in England, it was argued, that she was bound by it in a local allegiance to Elizabeth. The next point of debate was the designation under which it was most advisable to arraign her. To employ a foreign name and title as directly descriptive of her, was not judged to be consistent with the law of England. It was therefore resolved to design her "Mary, daughter and heir of James V. king of Scotland, and commonly called queen of Scots, and dowager of France."

This resolution being once taken, Elizabeth next ap- Commis-
pointed above 40 peers or privy-counsellors, and five sioners ap-
judges, bestowing upon them in a body, or upon the pointed to
greater part of them, absolute power and authority to try her.
inquire into the matters compassed and imagined against her by the Scottish princess, and to pass sentence according to the spirit and tenor of the act which had been passed. Of these commissioners a great majority proceeded to the castle of Fotheringay; and the day after their arrival, they deputed to Mary, Sir Walter Mildmay, Sir Amias Paulet, and Edward Barker a public notary, to deliver to her a letter from Elizabeth. In this letter the English queen gratified her unhappy passions, and after reproaching Mary with her crimes, informed her that commissioners were appointed to take cognizance of them. The Scottish princess, though astonished with the project of being brought to a public trial, was able to preserve her dignity, and addressed them with a composed manner and air. "It is a mat- 818
ter (said she) altogether uncommon and strange, that She objects
Elizabeth should command me to submit to a trial, to their ju-
as if I were her subject. I am an independent sovereign; risdiction.
and will not tarnish by any meanness my high birth, the
princes my predecessors, and my son. Misfortunes and
misery have not yet so involved me in dejection, as that
I am to faint and sink under this new calamity and insult.
I desire that you will remember what I formerly pro-
tested to Bromley, who is now lord-chancellor, and to
the lord La War. To speak to me of commissioners,
is a vain mockery of my rank. Kings alone can be my
peers. The laws of England are unknown to me; and
I have no counsellors to whose wisdom I can apply for
instruction. My papers and commentaries have been
taken from me; and no person can have the perilous
courage to appear as my advocate. I have indeed re-
commended myself and my condition to foreign princes;
but I am clear of the guilt of having conspired the de-
struction of Elizabeth, or of having incited any person
whatsoever to destroy her. It is only by my own words
and writings that an imputation of this kind can be
supported; and I am conscious beyond the possibility
of a doubt, that these evidences cannot be employed
against me." The day after she had in this manner re-
fused to allow the jurisdiction of the commissioners,
Paulet and Barker returned to her, and informed her
that they had put her speech into writing, and desired
to know if she would abide by it. She heard it read
distinctly, acknowledged it to be rightly taken, and
avowed her readiness to persist in the sentiments she had
delivered.

Scotland. delivered. But she added, there was a circumstance to which she had omitted to speak. "Your queen (said she) affects in her letter to observe, that I am subject to the laws of England, because I have lived under their protection. This sentiment and mode of thinking are very surprising to me. I came into England to crave her assistance and aid; and, ever since, I have been confined to a prison. The miseries of captivity cannot be called a protection, and the treatment I have suffered is a violation of all law."

This afflicted but undaunted princess, after having thus scorned the competency and repelled the pretexts of the commissioners, was induced at last, by arguments under the insidious mask of candour and friendship, to depart from the proper and dignified ground which she had taken, and consent to that mode of the trial which had been proposed. It was represented to her by Hatton the vice-chamberlain, that by rejecting a trial, she injured her own reputation and interests, and deprived herself of the only opportunity of setting her innocence in a clear light to the present and to future times. Imposed upon by this artifice, she consented to make her appearance before the judges; at the same time, however, she still protested against the jurisdiction of the court, and the validity of all their proceedings.

820
The accusation is preferred against her.

After various formalities, the lord-chancellor opened the case; and was followed by Serjeant Gawdry, who proceeded to explain the above statute, and endeavoured to demonstrate that she had offended against it. He then entered into a detail of Babington's conspiracy; and concluded with affirming, "That Mary knew it, had approved it, had promised her assistance, and had pointed out the means to effect it." Proofs of this charge were exhibited against her, and displayed with great art. The letters were read which Sir Francis Walsingham had forged, in concert with Gifford, &c. and her secretaries Naw and Curl. The three spies had afforded all the necessary intelligence about the conspiracy, upon which to frame a correspondence between Mary and Babington, and upon which dispatches might be fabricated in her name to her foreign friends; and the ciphers were furnished by her two secretaries. But beside these pretended letters, another species of evidence was held out against her. Babington, proud of the dispatch sent to him in her name by Walsingham and Gifford, returned an answer to it; and a reply from her by the same agency was transmitted to him. Deluded, and in toils, he communicated these marks of her attention to Savage and Ballard, the most confidential of his associates. His confession and theirs became thus of importance. Nor were her letters and the confessions of these conspirators deemed sufficient vouchers of her guilt. Her two secretaries, therefore, who had lately forsaken her, were engaged to subscribe a declaration, that the dispatches in her name were written by them at her command, and according to her instructions. These branches of evidence, put together with skill, and heightened with all the imposing colours of eloquence, were pressed upon Mary. Though she had been long accustomed to the perfidious inhumanity of her enemies, her amazement was infinite. She lost not, however, her courage; and her defence was alike expressive of her penetration and magnanimity.

Stuart's History.

"The accusation preferred to my prejudice is a most detestable calumny. I was not engaged with Babington in his conspiracy; and I am altogether innocent of having plotted the death of Elizabeth. The copies of Babington's letters which have been produced, may indeed be taken from originals which are genuine; but it is impossible to prove that I ever received them. Nor did he receive from me the dispatches addressed to him in my name. His confession, and those of his associates, which have been urged to establish the authority of my letters to him, are imperfect and vain. If these conspirators could have testified any circumstances to my hurt, they would not so soon have been deprived of their lives. Tortures, or the fear of the rack, extorted improper confessions from them; and then they were executed. Their mouths were opened to utter false criminations; and were immediately shut for ever, that the truth might be buried in their graves. It was no difficult matter to obtain ciphers which I had employed; and my adversaries are known to be superior to scruples. I am informed, that Sir Francis Walsingham has been earnest to recommend himself to his sovereign by practices both against my life and that of my son; and the fabrication of papers, by which to effectuate my ruin, is a business not unworthy of his ambition. An evidence, the most clear and incontestable, is necessary to overthrow my integrity; but proofs, the most feeble and suspicious, are held out against me. Let one letter be exhibited, written in my hand, or that bears my superscription, and I will instantly acknowledge that the charge against me is sufficiently supported. The declaration of my secretaries is the effect of rewards or of terror. They are strangers; and to overcome their virtue was an easy achievement to a queen whose power is absolute, whose riches are immense, and whose ministers are profound and daring in intrigues and treachery. I have often had occasion to suspect the integrity of Naw; and Curl, whose capacity is more limited, was always most obsequious to him. They may have written many letters in my name without my knowledge or participation; and it is not fit that I should bear the blame of their inconsiderate boldness. They may have put many things into dispatches which are prejudicial to Elizabeth; and they may even have subscribed their declaration to my prejudice, under the prepossession that the guilt which would utterly overwhelm them might be pardoned in me. I have never dictated any letter to them which can be made to correspond with their testimony. And what, let me ask, would become of the grandeur, the virtue, and the safety of princes, if they depended upon the writings and declarations of secretaries? Nor let it be forgotten, that by acting in hostility to the duty and allegiance which they solemnly swore to observe to me, they have utterly incapacitated themselves from obtaining any credit. The violation of their oath of fidelity is an open perjury; and of such men the protestations are nothing. But, if they are yet in life, let them be brought before me. The matters they declare are so important as to require that they should be examined in my presence. It argues not the fairness of the proceedings against me, that this formality is neglected. I am also without the assistance of an advocate; and, that I might be defenceless and weak in the greatest degree, I have been robbed of my papers and commentaries.

Scotland.
821
Mary's defence.
Stuart.

Scotland.

mentaries. As to the copies of the dispatches which are said to have been written by my direction to Mendoza, the lord Paget, Charles Paget, the archbishop of Glasgow, and Sir Francis Inglesfield, they are most unprofitable forgeries. For they tend only to show that I was employed in encouraging my friends to invade England. Now, if I should allow that these dispatches were genuine, it could not be inferred from them that I had conspired the death of Elizabeth. I will even confess, that I have yielded to the strong impulses of nature; and that, like a human creature, encompassed with dangers and insulted with wrongs, I have exerted myself to recover my greatness and my liberty. The efforts I have made can excite no blushes in me; for the voice of mankind must applaud them. Religion, in her sternest moments of severity, cannot look to them with reproach; and to consider them as crimes, is to despise the sanctimonious reverence of humanity, and to give way to the suspicious wretchedness of despotism. I have sought by every art of concession and friendship to engage my sister to put a period to my sufferings. Invited by her smiles, I ventured into her kingdom, in the pride and gaiety of my youth; and, under her anger and the miseries of captivity, I have grown into age. During a calamitous confinement of 20 years, my youth, my health, my happiness, are for ever gone. To her tenderness and generosity I have been indebted as little as to her justice; and, oppressed and agonizing with unmerited afflictions and hardships, I scrupled not to beseech the princes my allies to employ their armies to relieve me. Nor will I deny, that I have endeavoured to promote the advantage and interest of the persecuted Catholics of England. My intreaties in their behalf have been even offered with earnestness to queen Elizabeth herself. But the attainment of my kingdom, the recovery of my liberty, and the advancement of that religion which I love, could not induce me to stain myself with the crimes that are objected to me. I would disdain to purchase a crown by the assassination of the meanest of the human race. To accuse me of scheming the death of the queen my sister, is to brand me with the infamy which I abhor most. It is my nature to employ the devotions of Esther, and not the sword of Judith. Elizabeth herself will attest, that I have often admonished her not to draw upon her head the resentment of my friends by the enormity of her cruelties to me. My innocence cannot sincerely be doubted; and it is known to the Almighty God, that I could not possibly think to forego his mercy, and to ruin my soul, in order to compass a transgression so horrible as that of her murder. But amidst the inclement and unprincipled pretences which my adversaries are pleased to invent to overwhelm me with calamities and anguish, I can trace and discover with ease the real causes of their hostility and provocation. My crimes are, my birth, the injuries I have been compelled to endure, and my religion. I am proud of the first; I can forgive the second; and the third is a source to me of such comfort and hope, that for its glory I will be contented that my blood shall flow upon the scaffold."

To the defence of Mary, no returns were made beside stout and unsupported affirmations of the truth of the evidence produced to her prejudice. In the course of the trial, however, there occurred some incidents which deserve to be related. My lord Burleigh, who

was willing to discompose her, charged her with a fixed resolution of conveying her claims and titles to England to the king of Spain. But though, in a discontented humour with her son, she had threatened to disinherit him, and had even corresponded on the subject with her select friends, it appears that this project is to be considered as only a transient effect of resentment and passion. She indeed acknowledged, that the Spaniard professed to have pretensions to the kingdom of England, and that a book in justification of them had been communicated to her. She declared, however, that she had incurred the displeasure of many by disapproving of this book; and that no conveyance of her titles to the Spaniard had been ever executed.

The trial continued during the space of two days; but the commissioners avoided to deliver their opinions. My lord Burleigh, in whose management Elizabeth chiefly confided, and whom the Scottish queen discomposed in no common degree by her ability and vigour, being eager to conclude the business, demanded to know if she had any thing to add to what she had urged in her defence. She informed him, that she would be infinitely pleased and gratified, if it should be permitted to her to be heard in her justification before a full meeting of the parliament, or before the queen and her privy-council. This intimation was unexpected; and the request implied in it was rejected. The court, in consequence of previous instructions from Elizabeth, adjourned to a farther day, and appointed that the place of its convention should be the star-chamber at Westminster. It accordingly assembled there; and Naw and Curl, who had not been produced at Fotheringay-castle, were now called before the commissioners. An oath to declare the truth was put to them; and they definitely affirmed and protested that the declaration they had subscribed was in every respect just and faithful. Nothing farther remained but to pronounce sentence against Mary. The commissioners unanimously concurred in delivering it as their verdict or judgment, that she "was a party to the conspiracy of Babington; and that she had compassed and imagined matters within the realm of England tending to the hurt, death, and destruction, of the royal person of Elizabeth, in opposition to the statute framed for her protection." Upon the same day in which this extraordinary sentence was given, the commissioners and the judges of England issued a declaration, which imported, that it was not to derogate in any degree from the titles and honour of the king of Scots.

The sentence against Mary was very soon afterwards ratified by the English parliament. King James was struck with horror at hearing of the execution of his mother; but that spiritless prince could show his resentment no farther than by unavailing embassies and remonstrances. France interposed in the same ineffectual manner; and on the 6th of December 1586, Elizabeth caused the sentence of the commissioners against her to be proclaimed. After this she was made acquainted with her fate, and received the news with the greatest composure, and even apparent satisfaction. Her keepers now refused to treat her with any reverence or respect. They entered her apartment with their heads covered, and made no obeisance to her. They took down her canopy of state, and deprived her of all the badges of royalty. By these insulting mortifications they

Scotland.

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She desires to be heard before the parliament, or before the queen.

813

Judgment given against her.

814

The sentence ratified by the English parliament.

^{Scotland.} they meant to inform her, that she had sunk from the dignity of a princess to the abject state of a criminal. She smiled, and said, "In despite of your sovereign and her subservient judges, I will live and die a queen. My royal character is indelible; and I will surrender it with my spirit to the Almighty God, from whom I received it, and to whom my honour and my innocence are fully known." In this melancholy situation Mary addressed a magnanimous letter to Elizabeth, in which, without making the least solicitation for her life, she only requested that her body might be carried to France; that she might be publicly executed; that her servants might be permitted to depart out of England unmolested, and enjoy the legacies which she bequeathed them. But to this letter no answer was given.

⁸²⁵ ^{Imbecility of James, and extreme influence and bigotry of his clergy.} In the mean time James, who had neither address nor courage to attempt any thing in behalf of his mother, announced her situation to his bigotted subjects, and ordered prayers to be said for her in all the churches. The form of the petition he prescribed was framed with delicacy and caution, that the clergy might have no objection to it. He enjoined them to pray, "that it might please God to enlighten Mary with the light of his truth, and to protect her from the danger which was hanging over her." His own chaplains, and Mr David Lindsay minister of Leith, observed his command. But all the other clergy refused to prostitute their pulpits by preferring any petitions to the Almighty for a Papist. James, shocked with their spirit of intolerance and sedition, appointed a new day for prayers to be said for Mary, and issued a stricter injunction to the clergy to obey him; and that he might be free himself from any insult, he commanded the archbishop of St Andrew's to preach before him. The ecclesiastics, disgusted with his injunction, persuaded Mr John Cowper, a probationer in divinity, to occupy the pulpit designed for the archbishop. When the king entered the church, he testified his surprise, but told Cowper, that if he would obey his injunction, he might proceed to officiate. Cowper replied, "that he would do as the spirit of God would direct him." The king commanded him to retire, and the captain of his guard advanced to compel him to obedience. The enraged probationer exclaimed, that this violence "would witness against the king in the great day of the Lord;" and denounced a curse against the spectators for not exerting themselves in his defence. The archbishop now ascending the pulpit, performed with propriety the function to which he had been called, and took the opportunity to recommend moderation and charity to the audience. In the afternoon Cowper was cited before the privy-council; and was accompanied there by Mr Walter Balcanquhal and Mr William Watson, two ministers remarkable for their zeal. As a punishment for his audacious petulance, he was committed to the castle of Blackness; and his attendants having distinguished themselves by an impudent vindication of him, were prohibited from preaching during the pleasure of the king.

⁸²⁶ ^{Elizabeth feels some remorse;} Elizabeth, in the meanwhile, felt the torment and disquiet of unhappy and miserable passions. At times she courted the sadness of solitude, and refused to be consoled or to speak. In other seasons her sighs were frequent, and she broke out into loud and wild exclamations expressive of the state of her mind. Her subjects waited the determination of her will under a dis-

tracting agitation and uncertainty. Her ministers, who ^{Scotland.} knew that it is the nature of fear to exclude pity, were industrious in inventing terrifying intelligence, and in circulating it through the kingdom. There were rumours that the Spanish fleet had arrived at Milford-haven; that a formidable army of Scottish combatants was advancing to the capital; that the duke of Guise had disembarked many troops of veteran soldiers in Sussex; that Mary had escaped out of prison, and was collecting the English Catholics; that the northern counties had thrown aside their allegiance; and that there was a new plot to kill Elizabeth, and to reduce London to ashes. An actual conspiracy was even maliciously charged upon L'Aubespine the French resident; and he was forced to withdraw from England in disgrace. From the panic terrors which the ministers of Elizabeth were so studious to excite, they scrupled not loudly and invariably to infer, that the peace and tranquillity of the kingdom could alone be re-established by the speedy execution of the Scottish queen.

⁸²⁷ While the nation was thus artfully prepared for the destruction of Mary, Elizabeth ordered secretary ^{But signs the war-rant for Mary's death.} Davidson to bring to her the warrant for her death. Having perused it with deliberation, she observed that it was extended in proper terms, and gave it the authority of her subscription. She was in a humour somewhat gay, and demanded of him if he was not sorry for what she had done. He replied, that it was afflicting to him to think of the state of public affairs; but that he greatly preferred her life to that of the Scottish princess. She enjoined him to be secret, and desired, that before he should deliver the warrant to the chancellor, he should carry it to Wallingham. "I fear much (said she, in a merry tone), that the grief of it will kill him."

This levity was momentary; and fears and anxieties succeeded it. Though she earnestly desired the death of Mary, she was yet terrified to encounter its infamy. She was solicitous to accomplish this base transaction by some method which would conceal her consent to it. ⁸²⁸ After intimating to Mr Davidson an anxious wish that its blame should be removed from her, she counselled him to join with Wallingham in addressing a letter to Sir Amias Paulet and Sir Drue Drury, recommending it to them to manifest their love to her by shedding privately the blood of her adversary. The unlawfulness of this deed affected Davidson, and he objected to it. She repeated resolutely her injunctions, and he departed to execute them. A letter under his name and that of Wallingham was dispatched to Mary's keepers, communicating to them her purpose. Corrupted by her passions, and lost to the sensibilities of virtue, Elizabeth had now reached the last extremity of human wickedness. Though a sovereign princess, and entrusted with the cares of a great nation, she blushed not to give it in charge to her ministers to enjoin a murder; and this murder was connected with every circumstance that could make it most frightful and horrid. The victim for whose blood she thirsted was a woman, a queen, a relation, who was splendid with beauty, eminent in abilities, magnanimous under misfortunes, and smiling with innocence. Sir Amias Paulet and Sir Drue Drury, tho' ⁸²⁹ the slaves of religious prejudices, felt an elevation of ^{Which her keepers refuse.} mind which reflected the greatest disgrace upon the sovereign. They considered themselves as grossly insulted.

Scotland.
Stuart.

sulted by the purpose proposed to them; and in the return they made to Walsingham, they assured him, that the queen might command their lives and their property, but that they would never consent to part with their honour, and to stain themselves and their posterity with the guilt of an assassination. When Davidson carried their dispatch to her, she broke out into anger. Their scrupulous delicacy, she said, was a dainty infringement of their oath of association; and they were nice, precise, and perjured traitors, who could give great promises in words, and achieve nothing. She told him, that the business could be performed without them; and recommended one Wingfield to his notice, who would not hesitate to strike the blow. The astonished secretary exclaimed with warmth against a mode of proceeding so dangerous and unwarrantable. He protested, that if she should take upon herself the blame of this deed, it would pollute her with the blackest dishonour; and that, if she should disavow it, she would overthrow for ever the reputation, the estates, and the children, of the persons who should assist in it. She heard him with pain, and withdrew from him with precipitation.

830
The warrant passes the great seal.

The warrant, after having been communicated to Walsingham, was carried to the chancellor, who put the great seal to it. This formality was hardly concluded, when a message from Elizabeth prohibited Davidson from waiting upon the chancellor till he should receive farther instructions. Within an hour after, he received a second message to the same purpose. He hastened to court; and Elizabeth asked eagerly, if he had seen the chancellor. He answered in the affirmative; and she exclaimed with bitterness against his haste. He said, that he had acted exactly as she had directed him. She continued to express warmly her displeasure; but gave no command to stop the operation of the warrant. In a state of uneasiness and apprehension, he communicated her behaviour to the chancellor and the privy-council. These courtiers, however, who were well acquainted with the arts of their mistress, and who knew how to flatter her, paid no attention to him. They perceived, or were secretly informed, that she desired to have a pretence upon which to complain of the secretary, and to deny that he had obeyed her instructions. They observed to him, that by subscribing the warrant, she had performed whatever the law required of her; and that it was not proper to delay the execution any longer. While they were anxious to please Elizabeth, they were conscious of their own cruelty to Mary, and did not imagine they could be in perfect security while she lived. They dispatched the warrant to the earls of Shrewsbury and Kent, with instructions to them to fulfil its purpose.

831
Mary is acquainted with her fate.

When the two earls and their retinue reached Fotheringay-castle, they found that Mary was sick, and reposing upon her bed. They insisted, notwithstanding, to be introduced to her. Being informed by her servants that the message they brought was important and pressing, she prepared to receive them. They were conducted into her presence by Sir Amias Paulet and Sir Drue Drury; and with little formality they told her, that Elizabeth had consented to her death, and that she was to suffer the next morning at eight o'clock. Then Beale, one of the clerks of the privy-council, who accompanied them, read over the warrant, which she heard with pious composure and unshaken fortitude.

They then affected to justify their mistress by entering into details concerning the conspiracy of Babington. She put her hand upon the Scriptures, which lay upon a table near her, and swore in the most solemn manner, that she never devised, consented to, or pursued the death of Elizabeth in any shape whatsoever. The earl of Kent, unwisely zealous for the Protestant religion, excepted against her oath, as being made upon a Popish Bible. She replied to him mildly, "It is for this very reason, my lord, to be relied upon with the greater security; for I esteem the Popish version of the Scriptures to be the most authentic." Indulging his puritanical fervour, he declaimed against popery, counselled her to renounce its errors, and recommended to her attention Dr Fletcher dean of Peterborough. She heard him with some impatience; and discovered no anxiety to be converted by this ecclesiastic, whom he represented as a most learned divine. Rising into passion, he exclaimed, that "her life would be the death of their religion, and that her death would be its life." After informing him that she was unalterably fixed in her religious sentiments, she desired that her confessor might have the liberty to repair to her. The two earls concurred in observing, that their consciences did not allow them to grant this request. She intimated to them the favours for which she had applied by her letter to Elizabeth, and expressed a wish to know if her sister had attended to them. They answered, that these were points upon which they had received no instructions. She made inquiries concerning her secretaries Naw and Curl; and asked, whether it had ever been heard of, in the wickedest times of the most unprincipled nation, that the servants of a sovereign princess had been suborned for the purpose of destroying her. They looked to one another, and were silent. Bourgoyn her physician, who with her other domestics was present at this interview, seeing the two earls ready to depart, besought them with an emphatic earnestness to reflect upon the short and inadequate portion of time that they had allotted to his mistress to prepare herself for death. He insisted, that a respect for her high rank, and the multiplicity and importance of her concerns, required at least a period of some days. They pretended, however, not to understand the propriety of his petition, and refused it.

Upon the departure of the two earls, her domestics gave a full vent to their afflictions; and while she experienced a melancholy pleasure in their tears, lamentations, and kindness, she endeavoured to console them. Their grief, she said, was altogether unavailing, and could neither better her condition nor their own. Her cause had every thing about it that was most honourable; and the miseries from which she was to be relieved were the most hopeless and the most afflicting. Instead of dejection and sadness, she therefore enjoined them to be contented and happy. That she might have the more leisure to settle her affairs, she supped early, and, according to her usual custom, she eat little. While at table, she remarked to Bourgoyn her physician, that the force of truth was insurmountable; for that the earl of Kent, notwithstanding the pretence of her having conspired against Elizabeth, had plainly informed her, that her death would be the security of their religion. When supper was over, she ordered all her servants to appear before her, and treated them with the

832
She prepares for death.

Scotland. the kindness which we have mentioned in her life. Having settled these attentions, she entered her bedchamber with her women; and, according to her uniform practice, employed herself in religious duties, and in reading in the Lives of the Saints. At her accustomed time she went to sleep; and after enjoying some hours of sound rest, she awaked. She then indulged in pious meditation, and partook of the sacrament by the means of a consecrated host, which a melancholy presentiment of her calamities had induced her to obtain from Pius V.

833
Account of
the execu-
tion.

At the break of day she arrayed herself in rich, but becoming apparel; and calling together her servants, she ordered her will to be read, and apologised for the smallness of her legacies from her inability to be more generous. Following the arrangement she had previously made, she then dealt out to them her goods, wardrobe, and jewels. To Bourgoin her physician she committed the care of her will, with a charge that he would deliver it to her principal executor the duke of Guise. She also entrusted him with tokens of her affection for the king of France, the queen-mother, and her relations of the house of Lorraine. Bidding now an adieu to all worldly concerns, she retired to her oratory, where she was seen sometimes kneeling at the altar, and sometimes standing motionless with her hands joined, and her eyes directed to the heavens. In these tender and agitated moments, she was dwelling upon the memory of her sufferings and her virtues, reposing her weaknesses in the bosom of her God, and lifting and solacing her spirit in the contemplation of his perfections and his mercy. While she was thus engaged, Thomas Andrews, the high sheriff of the county, announced to her, that the hour for her execution was arrived. She came forth dressed in a gown of black silk; her petticoat was bordered with crimson-velvet; a veil of lawn bowed out with wire, and edged with bone-lace, was fastened to her caul, and hung down to the ground: an Agnus Dei was suspended from her neck by a pomander chain; her beads were fixed to her girdle; and she bore in her hand a crucifix of ivory. Amidst the screams and lamentations of her women she descended the stairs; and in the porch she was received by the earls of Kent and Shrewsbury with their attendants.— Here, too, she met Sir Andrew Melvil the master of her household, whom her keepers had debarred from her presence during many days. Throwing himself at her feet, and weeping aloud, he deplored his sad destiny, and the sorrowful tidings he was to carry into Scotland.

After she had spoken to Melvil, she besought the two earls that her servants might be treated with civility, that they might enjoy the presents she had bestowed upon them, and that they might receive a safe conduct to depart out of the dominions of Elizabeth. These slight favours were readily granted to her. She then begged that they might be permitted to attend her to the scaffold, in order that they might be witnesses of her behaviour at her death. To this request the earl of Kent discovered a strong reluctance. He said that they would behave with an intemperate passion; and that they would practise superstitious formalities, and dip their handkerchiefs in her blood. She replied, that she was sure that none of their actions would be blameable;

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and that it was but decent that some of her women should be about her. The earl still hesitating, she was affected with the insolent and stupid indignity of his malice, and exclaimed, "I am cousin to your mistress, and descended from Henry VII. I am a dowager of France, and the anointed queen of Scotland." The earl of Shrewsbury interposing, it was agreed that she should select two of her women who might assist her in her last moments, and a few of her men-servants, who might behold her demeanour, and report it.

She entered the hall where she was to suffer, and advanced with an air of grace and majesty to the scaffold, which was built at its farthest extremity. The spectators were numerous. Her magnanimous carriage, her beauty, of which the lustre was yet dazzling, and her matchless misfortunes, affected them. They gave way to contending emotions of awe, admiration, and pity. She ascended the scaffold with a firm step and a serene aspect, and turned her eye to the block, the axe, and the executioners. The spectators were dissolved in tears. A chair was placed for her, in which she seated herself. Silence was commanded; and Beale read aloud the warrant for her death. She heard it attentively, yet with a manner from which it might be gathered that her thoughts were employed upon a subject more important. Dr Fletcher dean of Peterborough taking his station opposite to her without the rails of the scaffold, began a discourse upon her life, past, present, and to come. He affected to enumerate her trespasses against Elizabeth, and to describe the love and tenderness which that princess had shown to her. He counselled her to repent of her crimes; and while he inveighed against her attachment to Popery, he threatened her with everlasting fire if she should delay to renounce its errors. His behaviour was indecent and coarse in the greatest degree; and while he meant to insult her, he insulted still more the religion which he professed, and the sovereign whom he flattered. Twice she interrupted him with great gentleness. But he pertinaciously continued his exhortations. Raising her voice, she commanded him with a resolute tone to withhold his indignities and menaces, and not to trouble her any more about her faith. "I was born (said she) in the Roman Catholic religion; I have experienced its comforts during my life, in the trying seasons of sickness, calamity, and sorrow; and I am resolved to die in it." The two earls, ashamed of the savage obstinacy of his deportment, admonished him to desist from his speeches, and to content himself with praying for her conversion. He entered upon a long prayer; and Mary falling upon her knees, and disregarding him altogether, employed herself in devotions from the office of the Virgin.

After having performed all her devotions, her women assisted her to disrobe; and the executioners offering their aid, she repressed their forwardness by observing, that she was not accustomed to be attended by such servants, nor to be undressed before so large an assembly. Her upper garments being laid aside, she drew upon her arms a pair of silk gloves. Her women and men servants burst out into loud lamentations. She put her finger to her mouth to admonish them to be silent, and then bade them a final adieu with a smile that seemed to console, but that plunged them into deeper woe. She kneeled resolutely before the block,

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Scotland. and said, "In thee, O Lord! do I trust, let me never be confounded." She covered her eyes with a linen handkerchief in which the eucharist had been inclosed; and stretching forth her body with great tranquillity, and sitting her neck for the fatal stroke, she called out, "Into thy hands, O God! I commit my spirit." The executioner, from design, from unskilfulness, or from inquietude, struck three blows before he separated her head from her body. He held it up mangled with wounds, and streaming with blood; and her hair being discomposed, was discovered to be already grey with afflictions and anxieties. The dean of Peterborough alone cried out, "So let the enemies of Elizabeth perish." The earl of Kent alone, in a low voice, answered, "Amen." All the other spectators were melted into the tenderest sympathy and sorrow.

Her women hastened to protect her dead body from the curiosity of the spectators; and solaced themselves with the thoughts of mourning over it undisturbed when they should retire, and of laying it out in its funeral garb. But the two earls prohibited them from discharging these melancholy yet pleasing offices to their departed mistress, and drove them from the hall with indignity. Bourgoign her physician applied to them that he might be permitted to take out her heart for the purpose of preserving it, and of carrying it with him to France. But they refused his intreaty with disdain and anger. Her remains were touched by the rude hands of the executioners, who carried them into an adjoining apartment; and who, tearing a cloth from an old billiard-table, covered that form, once so beautiful. The block, the cushion, the scaffold, and the garments, which were stained with her blood, were consumed with fire. Her body, after being embalmed and committed to a leaden coffin, was buried with royal splendour and pomp in the cathedral of Peterborough. Elizabeth, who had treated her like a criminal while she lived, seemed disposed to acknowledge her for a queen when she was dead.

834
Infamous
dissimula-
tion in
Elizabeth,
and indiffe-
rence in
James.

On the death of his mother, the full government of the kingdom devolved on James her son. Elizabeth, apprehensive of his resentment for her treatment of his mother, wrote him a letter, in which she disclaimed all knowledge of the fact. James had received intelligence of the murder before the arrival of this letter, which was sent by one Cary. The messenger was stopped at Berwick by an order from the king, telling him, that, if Mary had been executed, he should proceed at his peril. James shut himself up in Dalkeith castle, in order to indulge himself in grief; but the natural levity and imbecility of his mind prevented him from acting in any degree as became him. Instead of resolutely adhering to his first determination of not allowing Cary to set foot in Scotland, he in a few days gave his consent that he should be admitted to an audience of certain members of his privy-council, who took a journey to the borders on purpose to wait upon him. In this conference, Cary demanded that the league of amity between the two kingdoms should be inviolably observed. He said that his mistress was grieved at the death of Mary, which had happened without her consent; and, in Elizabeth's name, offered any satisfaction that James could demand. The Scots commissioners treated Cary's speech and proposal with becoming disdain. They ob-

served, that they amounted to no more than to know Scotland. whether James was disposed to sell his mother's blood; adding, that the Scottish nobility and people were determined to revenge it, and to interest in their quarrel the other princes of Europe. Upon this Cary delivered to them the letter from Elizabeth, together with a declaration of his own concerning the murder of the queen; and it does not appear that he proceeded farther.

This reception of her ambassador threw Elizabeth into the utmost consternation. She was apprehensive that James would join his force to that of Spain, and entirely overwhelm her; and had the resentment or the spirit of the king been equal to that of the nation, it is probable that the haughty English princess would have been made severely to repent her perfidy and cruelty. It doth not, however, appear, that James had any serious intention of calling Elizabeth to an account for the murder of his mother; for which, perhaps, his natural imbecility may be urged as an excuse, though it is more probable that his own necessity for money had swallowed up every other consideration. By the league formerly concluded with England, it had been agreed that Elizabeth should pay an annual pension to the king of Scotland. James had neither economy to make his own revenue answer his purposes, nor address to get it increased. He was therefore always in want; and as Elizabeth had plenty to spare, her friendship became a valuable acquisition. To this consideration, joined to his view of ascending the English throne, must chiefly be ascribed the little resentment shown by him to the atrocious conduct of Elizabeth.

Elizabeth was not wanting in the arts of dissimulation and treachery now more than formerly. She prosecuted and fined secretary Davidson and lord Burleigh for the active part they had taken in Mary's death. Their punishment was indeed much less than they deserved, but they certainly did not merit such treatment at her hands. Walsingham, though equally guilty, yet escaped by pretending indisposition, or perhaps escaped because the queen had now occasion for his services. By her command he drew up a long letter addressed to lord Thirlston, king James's prime minister; in which he showed the necessity of putting Mary to death, and the folly of attempting to revenge it. He boasted of the superior force of England to that of Scotland; shewed James that he would for ever ruin his pretensions to the English crown, by involving the two nations in a war; that he ought not to trust to foreign alliances; that the Roman Catholic party were so divided among themselves, that he could receive little or no assistance from them, even supposing him so ill advised as to change his own religion for Popery, and that they would not trust his sincerity. Lastly, he attempted to show, that James had already discharged all the duty towards his mother and his own reputation that could be expected from an affectionate son and a wise king; that his interceding for her with a concern so becoming nature, had endeared him to the kingdom of England; but that it would be madness to push his resentment farther.

This letter had all the effect that could be desired. James gave an audience to the English ambassador; and being assured that his blood was *not tainted* by the execution of his mother for treason against Elizabeth, but that

835
Secretary
Lindsey
and lord
Burleigh
punished.

Scotland that he was still capable of succeeding to the crown of England, he consented to make up matters, and to address the murderer of his mother by the title of loving and affectionate sister.

The reign of James, till his accession to the crown of England by Elizabeth's death in 1603, affords little matter of moment. His scandalous concessions to Elizabeth, and his constant applications to her for money, filled up the measure of Scottish meanness. Ever since the expulsion of Mary, the country had in fact been reduced to the condition of an English province. The sovereign had been tried by the queen of England, and executed for treason; a crime, in the very nature of the thing impossible, had not Scotland been in subjection to England; and to complete all, the contemptible successor of Mary thought himself well off that he was not a traitor too, to his sovereign the queen of England we must suppose, for the case will admit of no other supposition.

836
Disturbances during the reign of James.
During the reign of James, the religious disturbances which began at the reformation, and that violent struggle of the clergy for power which never ceased till the revolution in 1688, went on with great violence. Continual clamours were raised against Popery, at the same time that the very fundamental principles of Popery were held, nay urged in the most insolent manner, as the effects of immediate inspiration. These were the total independence of the clergy on every earthly power, at the same time that all earthly powers were to be subject to them. Their fantastic decrees were supposed to be binding in heaven; and they took care that they should be binding on earth, for whoever had offended so far as to fall under a sentence of excommunication was declared an outlaw.

837
His super-
stition and
cruelty.
It is easy to see that this circumstance must have contributed to disturb the public tranquillity in a great degree. But besides this, the weakness of James's government was such, that, under the name of peace, the whole kingdom was involved in the miseries of civil war; the feudal animosities revived, and slaughter and murder prevailed all over the country. James, fitted only for pedantry, disputed, argued, modelled, and re-modelled, the constitution to no purpose. The clergy continued their insolence, and the laity their violences upon one another; at the same time that the king, by his unhap-

py credulity in the operation of demons and witches, declared a most inhuman and bloody war against the poor old women, many of whom were burnt for the imaginary crime of conversing with the devil.

In autumn 1600 happened a remarkable conspiracy against the liberty, if not the life, of the king. The attainer and execution of the earl of Gowrie for the part he acted in the raid of Ruthven and for subsequent practices of treason have been already mentioned. His son, however, had been restored to his paternal dignity and estates, and had in consequence professed gratitude and attachment to the king. But the Presbyterian clergy continued to express their approbation of the raid of Ruthven, and to declare on every occasion that in their opinion the earl of Gowrie had suffered by an unjust sentence. One of the most eminent and popular of that order of men was preceptor to the younger Gowrie and his brothers, who, from their frequent conversations with him, must have been deeply impressed with the belief that their father was murdered. The passion of revenge took possession of their breasts; and having invited the king from Falkland to the earl of Gowrie's house at Perth, under the pretence of showing him a secret treasure of foreign gold, which he might lawfully appropriate to his own use, an attempt was made to keep him a close prisoner, with threats of putting him to instant death if he should make any attempt to regain his liberty.

The reality of this conspiracy has been questioned by many writers, for no other reason, as it would appear, but because they could not assign a rational motive for Gowrie's engaging in so hazardous an enterprise; and some have even insinuated that the conspiracy was entered into by the king against Gowrie in order to get possession of his large estates. It has been shown however by Arnot, in his Criminal Trials, with a force of evidence which leaves no room for doubt, that the conspiracy was the earl's, who seems to have intended that the king should be cut off by the hand of an assassin; and the same acute and discriminating writer has made it appear highly probable, that he entertained hopes, in the then distracted state of the nation not ill founded, of being able to mount the throne of his murdered sovereign (z). From this imminent danger James was rescued by his attendants the duke of Lennox, the earl of
N 2
Marre,

(z) The family of Ruthven had long been looked upon as the head of that party which was attached to England and the reformation; and the accomplishments of the latter Gowrie qualified him to be the leader of an enterprising faction. The importance he derived from aristocratic influence over his extensive domains, and from the attachment of a powerful party in church and state, was embellished with the lustre of a regal descent. Thus ambition, as well as revenge, might stimulate him to his daring enterprise. Indeed, if his attempt was to be directed against the life of the king, it could no longer be safe for him to remain in the condition of a subject: and the indecent and malicious imputation of bastardy, with which the fanatics reproached king James, might afford a plausible pretext for secluding the royal offspring. The family of Hamilton, next heir to the crown, had long lost its popularity, and the earl of Arran, its head, had lost his judgment; and, though there undoubtedly were several families interposed between Gowrie and the crown in the strict line of succession, none of them probably possessed power and popularity to support their right. But if Gowrie and his brother were really endowed with those personal accomplishments which have been so highly extolled, and which made their countrymen conceive the most sanguine hopes of their early virtues; it is absurd to suppose lord Gowrie to have flattered himself, that in a country where the church was in danger, where the trumpet of sedition was sounded by the ministers, who fortified the chief block-house of the Lord's Jerusalem, his piety, popularity, and bravery, should supply the defect in title, and make him be called, while there were nearer heirs to the crown; as has since happened in the same country, on a similar occasion.

Scotland. Marre, Sir Thomas Erskine afterwards earl of Kellie, and Sir John Ramsay who was likewise ennobled; and though Gowrie and his brother fell in the struggle, they were attainted by an act of parliament, which decreed their name, memory, and dignity, to be extinguished; their arms to be cancelled; their whole estates to be forfeited and annexed to the crown; the name of Ruthven to be abolished; and their posterity and surviving brethren to be incapable of succeeding to, or of holding, any offices, honours, or possessions.

838
The Western Islanders civilized.

The most memorable transaction of James's reign, and that most to his honour, is the civilizing of the western islanders. For this purpose, he instituted a company of gentlemen adventurers, to whom he gave large privileges for reforming them. The method he proposed was to transport numbers of them to his low countries in Scotland, and to give their islands, which were very improveable, in fee to his lowland subjects who should choose to reside in the islands. The experiment was to be made upon the Lewes, a long range of the Ebuðæ; from whence the adventurers expelled Murdoch Macleod, the tyrant of the inhabitants. Macleod, however, kept the sea; and intercepting a ship which carried one of the chief adventurers, he sent him prisoner to Orkney, after putting the crew to the sword. Macleod was soon after betrayed by his own brother, and hanged at St Andrew's. The history of this new undertaking is rather dark; and the settlers themselves seem to have been defective in the arts of civilization. The arrangements they made were considered by the inhabitants as very oppressive; and one Norman, of the Macleod family, attacked and subdued them so effectually, that they not only consented to yield the property of the islands to him, but engaged to obtain the king's pardon for what he had done.

839
James succeeds to the crown of England.

In 1603 James was called to the throne of England by the death of Elizabeth, and the same year took a final leave of Scotland (A). From this period the history of Scotland, being blended with that of England, is included in the article BRITAIN; to which therefore we refer the reader, and shall proceed to give a general account of the country.

840
General description of Scotland.

The first and great division of Scotland is into the Highlands and Lowlands. The former engross more than one half of Scotland; extending from Dumbartonshire to the most northern part of the island, a space of 200 miles in length, and in breadth from 50 to 100. This tract, however, includes several extensive districts of low, fruitful ground, inhabited by people who are in all respects different from the mountaineers. Nothing can be more savage and tremendous to the eye of a stranger, than the appearance of the Highlands, composed of blue rocks and dusky mountains heaped upon one another even above the clouds, their interstices rendered impassable by bogs, their sides embrowned with heath, and their summits covered with snow, which lies all the year unthawed, pouring from their jagged sides a thousand torrents and roaring cataracts

that fall into gloomy vales or glens below, some of them so narrow, deep, and dismal, as to be altogether impenetrable by the rays of the sun; yet even these mountains are in some places sloped into agreeable green hills fit for pasture, and skirted or interspersed with pleasant straths or valleys capable of cultivation. It may be unnecessary to observe, that the Lowlanders of Scotland speak an ancient dialect of the English language, interlarded with many terms and idioms which they borrowed immediately from France, in a long course of correspondence with that kingdom: they likewise copy their southern neighbours in their houses, equipage, habit, industry, and application to commerce. As to the inhabitants of the mountains, see the article HIGHLANDERS. They are, all, however, comprehended under the name of Scots, governed by the same laws, and tried by the same judges; and, whatever may be their dissensions at home, they always, when abroad, acknowledge and assist one another as friends and countrymen. Some authors have divided Scotland into that part which lies to the southward of the Frith, and that which lies to the northward; but the true division is, like that of England, into shires, counties, stewartries or bailiwicks, of which there are above 40 within the kingdom of Scotland.

The face of this country exhibits a very mountainous appearance, especially to the west and northward; but, at the same time, it displays many large and long tracts of plain ground fit for all the purposes of agriculture. It is divided from east to west by a chain of huge mountains, known by the name of *Grant's bain* or the *Grampian hills*. There is another chain called the *Pentland hills*, which run through Lothian, and join the mountains of Tweeddale; a third, called *Lammer-muir*, rising near the eastern coast, runs westward through the Merse; but besides these, there is a vast number of detached hills and mountains, remarkable for their stupendous height and steepness. There is no country in the world better supplied than Scotland with rivers, lakes, rivulets, and fountains. Over and above the principal rivers of Tweed, Forth, Clyde, Tay, and Spey, there is an infinity of smaller streams that contribute to the beauty, convenience, and advantage of the kingdom. Tweed takes its rise from the borders of Annandale; serves as a boundary between Scotland and England; and, after a long serpentine course, discharges itself into the sea at Berwick. Forth rises in Monteith near Callendar, passes by Stirling, and after a course of 25 leagues, runs into the arm of the sea called the *Frith of Forth*, which divides the coast of Lothian from Fife. Clyde takes its rise from Errick hill, in the shire of Lanerk; traverses the shire of Clydesdale, to which it gives name; washes the city of Glasgow, widens in its passage to the castle of Dumbarton, and forms the frith of Clyde adjoining to the Irish sea. Tay, the largest river in Scotland, derives its source from Loch-Tay in Breadalbane; and, after a south-east course, discharges itself into

841
Principal mountains, &c.

(A) In 1589 James was married to Anne princess of Denmark, for whom he made a voyage on purpose to that country. This princess seems to have intermeddled very little with state-affairs, since we find her scarce ever mentioned either by Scots or English historians. In her private conduct she is said to have been unprincipled, vindictive, and unfaithful to her husband.

Scotland. into the sea below Dundee. Spay, or Spey, issues from a lake of the same name in Badenoch; and, running a north-easterly course, falls into the German ocean, at Speymouth. Some of the fresh-water lakes are beautiful pieces of water, incredibly deep, and surprisingly extended. There are several large forests of fir in Scotland, and a great number of woods; which, however, produce very little timber of any consequence: but the country, in general, is rather bare of trees; and in many places neither tree, shrub, nor any kind of plantation, is to be seen. The case has been otherwise of old; for huge trunks of trees are often dug from under ground in almost every part of the kingdom.

842
Climate and Soil. In the north of Scotland, the day at midsummer is lengthened out to 18 hours and 5 minutes; so that the shortest night does not exceed 5 hours and 55 minutes: the night and day, in winter, are in the same proportion. The air of this kingdom is generally moist and temperate, except upon the tops of high mountains covered with eternal snow, where it is cold, keen, and piercing. In other parts it is tempered by warm vapours from the sea, which environs it on three sides, and runs far up into the land by friths, inlets, and indentations. This neighbourhood of the sea, and the frequency of hills and mountains, produce a constant undulation in the air, and many hard gales, that purify the climate, which is for the most part agreeable and healthy. Scotland affords a great variety of soil in different parts of the country, which, being hilly, is in general well adapted to pasturage: not but that the Lowlands are as fertile, and, when properly inclosed and manured, yield as good crops of wheat as any grounds in the island of Great Britain. The water in Scotland is remarkably pure, light, and agreeable to the stomach: but, over and above that which is used for the ordinary purposes of life, here are many medicinal springs of great note.

Scotland abounds with quarries of free-stone easily worked, which enable the people to build elegant houses, both in town and country, at a small expence, especially as they have plenty of lime-stone, and labour very cheap. The east, west, and northern parts of the country produce excellent coal; and where this is wanting, the natives burn turf and peat for fuel. Crystals, variegated pebbles, and precious stones, are found in many parts of Scotland; talc, flint, and sea-shells, fuller's earth, potter's clay, and metals in great plenty. The country produces iron and copper ore, a prodigious quantity of lead, mixed with a large proportion of silver; and in some places little bits of solid gold are gathered in brooks immediately after torrents.

The Lowlands of Scotland, as has been observed when duly cultivated, yield rich harvests of wheat; and indeed it must be owned that many parts of this kingdom rival the best spots of England in agriculture: but these improvements have not yet advanced into the western and northern extremities of the island, where we see nothing but scanty harvests of oats, rye, and barley. The Highlands are so defective even in these, that it is necessary to import supplies of oatmeal from Ireland and Liverpool. This scarcity, however, we must not impute to the barrenness of the soil, so much as to the sloth and poverty of the tenants, oppressed by rapacious landlords, who refuse to grant such leases as would encourage the husbandman to improve his farm

and make himself better acquainted with the science of agriculture. This is perfectly well understood in the Lothians, where we see substantial inclosures, plantations, meadows for hay and pasture, wide extended fields of wheat, the fruits of skill and industry, and meet with farmers who rent lands to the amount of 400 l. or 500 l. a-year. Of plants this country produces an immense variety, growing wild, exclusive of those that are raised by the hands of the husbandman and gardener. Their farm-grounds are well stocked with wheat, rye, barley, oats, hemp, and flax: their gardens produce great plenty of kitchen-roots, salads, and greens; among which last we reckon the colewort, known by the name of *Scotch kail*: their orchards bear a variety of apples, pears, cherries, plums, strawberries, gooseberries, raspberries, and currants: here also apricots, nectarines, peaches, and sometimes grapes, are brought to maturity. In a word, there is nothing, whether shrub, fruit, or flower, that grows in any part of South Britain, which may not, with a little pains, be brought to the same perfection in the middle of Scotland. Among the trees and shrubs which are the national growth of this country, we may reckon the oak, the fir, the birch, the poplar, the alder, willow, elder, hazle, mountain-ash, crab-tree, and juniper; which last abounds to such a degree in some parts of the Highlands, that in the space of a few miles many tons of the berries might be yearly gathered: besides these, we find the hawthorn, the sloe, the dog-rose, furze, broom, fern, and whole tracts of land and mountains covered with strong heath. This affords shelter for the myrtillis, the fruit of which, called *bilberries*, is here found in great abundance, as well as the brambleberry, cranberry, and wild strawberry. The ash, the elm, the sycamore, lime and walnut-tree, are chiefly planted about the houses of gentlemen; but even the inclosures of quickset appear naked for want of such hedge-rows as adorn the country of England. Indeed, great part of this kingdom lies naked and exposed like a common; and other parts have no other inclosure than a paltry wall huddled up of loose stones, which yields a bleak and mean prospect, and serves no other purpose than that of keeping out the cattle. All the sea-coast is covered with alga marina, dulce, and other marine plants.

The Highlands are well stocked with red deer, and the smaller species called the *roe-buck*, as well as with hares, rabbits, foxes, wild cats, and badgers; and they abound with all sorts of game. The rivers and lakes pour forth a profusion of salmon, trout, jack, and eels; the sea-coast swarms with all the productions of the ocean. The hills and mountains are covered with sheep and black cattle for exportation, as well as domestic use. These are of small size, as are also the horses bred in the Highlands; but the Lowlanders use the large breed, which came originally from England.

New SCOTLAND. See *NOVA SCOTIA*.

SCOTOMIA, in medicine, a vertigo accompanied with dimness of sight, frequently the forerunner of an apoplexy.

SCOTT (John), an eminent English divine, was born in 1638, and became minister of St Thomas's in Southwark. In 1684 he was collated to a prebend in the cathedral of St Paul's. Dr Hickeys tells us, that, after the revolution, "he first refused the bishopric of Chester, because he would not take the oath of ho-

Scotus.
Scougal.

image; and afterwards another bishopric, the deanery of Worcester, and a prebend of the church of Windsor, because they were all places of deprived men." He published several excellent works, particularly *The Christian Life*, &c. and died in 1695. He was eminent for his humanity, affability, sincerity, and readiness to do good; and his talent for preaching was extraordinary.

SCOTUS (Duns). See DUNS.

SCOTUS (John). See ERIGENA.

SCOU GAL (Henry), second son of Patrick Scougal bishop of Aberdeen, was born, June 1650, at Salton in East Lothian, where his father, the immediate predecessor of Bishop Burnet, was rector. His father, designing him for the sacred ministry, watched over his infant mind with peculiar care; nor was his care bestowed in vain. He had soon the satisfaction of perceiving the most amiable dispositions unfold themselves, and his understanding rise at once into the vigour of manhood. Relinquishing the amusements of youth, young Scougal applied to his studies with ardour; and, agreeable to his father's wish, at an early period he directed his thoughts to sacred literature. He perused the historical parts of the bible with peculiar pleasure, and then began to examine its contents with the eye of a philosopher. He was struck with the peculiarities of the Jewish dispensation, and felt an anxiety to understand the reason why its rites and ceremonies were abolished. The nature and evidences of the Christian religion also occupied his mind. He perused sermons with pleasure, committed to writing those passages which most affected him, and could comprehend and remember their whole scope. Nor was he inattentive to polite literature. He read the Roman classics, and made considerable proficiency in the Greek, in the Hebrew, and other oriental languages. He was also well versed in history and mathematics. His diversions were of a manly kind. After becoming acquainted with the Roman history, in concert with some of his companions he formed a little senate where orations of their own composition were delivered.

At the age of fifteen he entered the university, where he behaved with great modesty, sobriety, and diligence. He disliked the philosophy then taught, and applied himself to the study of natural philosophy; that philosophy which has now happily got such footing in the world, and tends to enlarge the faculties. In consequence of this, we may here observe, that when he was yet about eighteen years of age, he wrote the reflections and short essays since published; which tho' written in his youth, and some of them left unfinished, breathe forth so much devotion, and such an exalted soul, as must convince us his conversation was in heaven.

In all the public meetings of the students he was unanimously chosen president, and had a singular deference paid to his judgment. No sooner had he finished his courses, but he was promoted to a professorship in the university of Aberdeen, where he conscientiously performed his duty in training up the youth under his care in such principles of learning and virtue as might render them ornaments to church and state. When any divisions and animosities happened in the society, he was very instrumental in reconciling and bringing them to a good understanding. He maintain-

ed his authority among the students in such a way as to keep them in awe, and at the same time to gain their love and esteem. Sunday evenings were spent with his scholars in discoursing against vice and impiety of all kinds, and encouraging religion in principle and practice. He allotted a considerable part of his yearly income for the poor; and many indigent families, of different persuasions, were relieved in their straits by his bounty; though so secretly that they knew not whence their supply came.

Having been a professor of philosophy for four years, he was at the age of twenty-three ordained a minister, and settled at Auchterless, a small village about twenty miles from Aberdeen. Here his zeal and ability for his great Master's service were eminently displayed. He catechised with great plainness and affection, and used the most endearing methods to recommend religion to his hearers. He endeavoured to bring them to a close attendance on public worship, and joined with them himself at the beginning of it. He revived the use of lectures, looking on it as very edifying to comment upon and expound large portions of scripture. And though he endured several outward inconveniences, yet he bore them with patience and meekness. But as God had designed him for an eminent station, where he could be of more universal use in his church, he was removed from his private charge to that of training up youth for the holy ministry and the care of souls. In the twenty-fifth year of his age he was admitted professor of divinity in the king's college, Aberdeen; and though he was unanimously chosen, yet he declined a station of such importance, from a modest sense of his unsuitness for it: And as he had been an ornament to his other stations of life, so in a particular manner he applied himself to the exercise of this office. After he had guarded his students against the common artifices of the Romish missionaries in making proselytes, he proposed two subjects for public exercises; the one, of the pastoral care; the other, of casuistical divinity: but there were no debates he was more cautious to meddle with than the decrees of God; sensible that secret things belong to God; and to us things revealed.

The inward dispositions of this excellent man are best seen in his writings; and the whole of his outward behaviour and conversation was the constant practice of what he preached; as we are assured by the concurring testimony of several respectable persons who knew him. How unsuitable then would panegyric be, where the subject was full of humility? and therefore let it suffice to say, that after he began to appear publicly, you see him as a professor, earnest at once to improve his scholars in human and sacred learning; as a pastor, he ceased not to preach the word, to exhort, to reprove, and to rebuke with all authority: and as a professor of divinity, he bestowed the utmost pains to convince the candidates for the ministry of the weight and importance of that high office; that it was not to be followed for lucre, but purely to promote the worship of God and the salvation of men. Again, if we consider his private life, how meek, how charitable, and how self-denied! how disinterested in all things, how resigned to the divine will! and above all, how refined his sentiments with regard to the love of God! How amiable must he then appear! How

worthy

Scougal || **Screw.** worthy of imitation, and of the universal regret at his death! In this light we see clearly that the memory of the just is blessed.

At length his health began to be impaired by incessant study, and about the twenty-seventh year of his age he fell into a consumption, which wasted him by slow degrees. But during the whole time of his sickness he behaved with the utmost resignation, nor did he ever show the least impatience.

When his friends came to visit him, he would say, "he had reason to bless God it was no worse with him than it was. And (says he) when you have the charity to remember me in your prayers, do not think me a better man than I am; but look on me, as indeed I am, a miserable sinner." Upon the twentieth day of June 1678 he died, in the greatest calmness, in the twenty-eighth year of his age, and was buried in the King's College-Church in Old Aberdeen. The principal work of Scougal is a small treatise intitled, *The Life of God in the Soul of Man*. This book is not only valuable for the sublime spirit of piety which it breathes, but for the purity and elegance of its style; qualities for which few English writers were distinguished before the Revolution.

SCOUTS, in a military sense, are generally horsemen sent out before, and on the wings of an army, at the distance of a mile or two, to discover the enemy, and give the general an account of what they see.

SCRATCH-PANS, in the English salt-works, a name given to certain leaden pans, which are usually made about a foot and an half long, a foot broad, and three inches deep, with a bow or circular handle of iron, by which they may be drawn out with a hook when the liquor in the pan is boiling. Their use is to receive a selenitic matter, known by the name of *soft scratch*, which falls during the evaporation of the salt-water. See the article *Sea-SALT*.

SCRATCHES, in farriery. See there, § xxxvii.

SCREED, with plasterers, is the floated work behind a cornice, and is only necessary when a cornice is to be executed without bracketing.

SCREW, one of the six mechanical powers. A screw is a cylinder cut into several concave surfaces, or rather a channel or groove made in a cylinder, by carrying on two spiral planes the whole length of the screw, in such a manner that they may be always equally inclined to the axis of the cylinder in their whole progress, and also inclined to the base of it in the same angle. See *MECHANICS*, n° 30.

N° 1. To construct a common, or one-threaded Screw.—Make a parallelogram of paper equal in length to the cylinder which is to be screwed, and equal in breadth to the circumference of that cylinder. Divide the side of the parallelogram, which is equal to the circumference of the cylinder, into two equal parts. Divide the other side of the parallelogram, which is equal in length to the cylinder, into as many parts as the thickness or breadth of the intended thread will run over. Then join the second point on the circumference side to the second point on the length-side of the parallelogram, and so join all the succeeding points as you see in the figure.

N° 2. To make a four-threaded Screw, or that which is commonly used for the letter-press.—Make a parallel-

ogram, as described before; divide that side which is equal to the circumference of the cylinder into eight equal parts, or twice the number of threads. Divide the other side into as many parts as the distance between two threads will run over, then join the points as in n° 1. (fig. 1).

COROLLARY. To make a left-handed screw.—Make the parallels to the right instead of the left, as expressed by the figures, n° 3.

This is the true and only practicable way of making all kinds of screws that are cut on a cylinder.

Archimedes's SCREW. See *HYDROSTATICS*, n° 40.

Endless or Perpetual SCREW, one so fitted in a compound machine as to turn a dented wheel; so called, because it may be turned for ever without coming to an end.

If in the endless or perpetual screw, AB (n° 4.), whose threads take the teeth of the wheel CD, you take the distance of two threads, according to the length of the axis AB; or the distance of two teeth in the wheel CD, in the direction of the circumference; and if a weight W act at the circumference of the wheel: then, if the power D be to the weight W, as that distance of the teeth or threads, to the length described by the power P in one revolution, the power and weight will be in equilibrio; because in one revolution of P, the wheel DC, with the weight W, has moved only the distance of one tooth.

SCRIBE, in Hebrew *סופר* *sopher*, is very common in scripture, and has several significations. It signifies,

1. A clerk, writer, or secretary. This was a very considerable employment in the court of the kings of Judah, in which the scripture often mentions the secretaries as the first officers of the crown. Seraiah was scribe or secretary to king David (2 Sam. viii. 17). Shevah and Shemaiah exercised the same office under the same prince (2 Sam. xx. 25). In Solomon's time we find Elihoreph and Ahiah secretaries to that prince (1 Kings iv. 4). Shebna under Hezekiah (2 Kings xix. 2). And Shaphan under Josiah (2 Kings xxii. 8). As there were but few in those times that could write well, the employment of a scribe or writer was very considerable.

2. A scribe is put for a commissary or muster-master of an army, who makes the review of the troops, keeps the list or roll, and calls them over. Under the reign of Uzziah king of Judah, there is found Jeil the scribe who had under his hand the king's armies (2 Chr. xxvi. 11). And at the time of the captivity, it is said the captain of the guard, among other considerable persons, took the principal scribe of the host, or secretary at war, which mustered the people of the land (2 Kings xxv. 19).

3. Scribe is put for an able and skilful man, a doctor of the law, a man of learning that understands affairs. Jonathan, David's uncle by the father's side, was a counsellor, a wise man, and a scribe (1 Chr. xxvii. 32). Baruch, the disciple and secretary to Jeremiah, is called a scribe (Jer. xxxvi. 26). And Ezra is celebrated as a skilful scribe in the law of his God (Ezra vii. 6). The scribes of the people, who are frequently mentioned in the Gospel, were public writers and professed doctors of the law, which they read and explained to the people. Some place the original of scribes under

Screw,
Scribe.

Plate

ccccxlviii.

Scribe
||
Scrimzeor.

der Moses: but their name does not appear till under the judges. It is said, that in the wars of Barak against Sisera, "out of Machir came down governors, and out of Zebulun they that handle the pen of the writer." (Judges v. 14). Others think that David first instituted them, when he established the several classes of the priests and Levites. The scribes were of the tribe of Levi; and at the time that David is said to have made the regulations in that tribe, we read that 6000 men of them were constituted officers and judges (1 Chr. xxiii. 4.); among whom it is reasonable to think the scribes were included. For in 2 Chr. xxiv. 6. we read of Shemaiah the scribe, one of the Levites; and in 2 Chr. xxxiv. 13. we find it written, "Of the Levites that were scribes and officers."

The scribes and doctors of the law, in the scripture phrase, mean the same thing; and he that in Mat. xxii. 35. is called a *doctor of the law*, or a *lawyer*, in Mark xii. 28. is named a *scribe*, or *one of the scribes*. And as the whole religion of the Jews at that time chiefly consisted in pharisaical traditions, and in the use that was made of them to explain the scripture; the greatest number of the doctors of the law, or of the scribes, were pharisees; and we almost always find them joined together in scripture. Each of them valued themselves upon their knowledge of the law, upon their studying and teaching it (Mat. xxii. 52.): they had the key of knowledge, and sat in Moses's chair (Mat. xxiii. 2). Epiphanius, and the author of the *Recognitions* imputed to St Clement, reckon the scribes among the sects of the Jews; but it is certain they made no sect by themselves; they were only distinguished by their study of the law.

SCRIBONIUS (Largus), an ancient physician in the reign of Augustus or Tiberius, was the author of several works; the best edition of which is that of John Rhodius.

SCRIMZEOR or SCRIMGEOUR (Henry), an eminent restorer of learning, was born at Dundee in the year 1506. He traced his descent from the ancient family of the Scrimzeours of Didupe, who obtained the office of hereditary standard-bearers to the kings of Scotland in 1057.

At the grammar-school of Dundee our author acquired the Greek and Latin languages to an uncommon degree of perfection, and that in a shorter space of time than many scholars before him. At the university of St Andrew's his successful application to philosophy gained him great applause. The next scene of his studies was the university of Paris, and their more particular object the civil law. Two of the most famous civilians of that age, Eguinard Baron and Francis Duaren (A), were then giving their lectures to crowded circles at Bourges. The fame of these professors occasioned his removal from Paris; and for a considerable time he prosecuted his studies under their direction.

At Bourges he had an opportunity of becoming acquainted with the celebrated James Amiot, Greek professor in that city, well known in the learned world by his translation of Plutarch's Lives, and distinguished afterwards by his advancement to great honours in the church, and finally to the rank of cardinal.

Through the recommendation of this eminent person, Mr Scrimzeor engaged in the education of two young gentlemen of the name of Bucherel, whom he instructed in the belles lettres, and other branches of literature, calculated to accomplish them for their station in life.

This connection introduced him to Bernard Bornelet bishop of Rennes, a person famed in the political world for having served the state in many honourable embassies. Accepting an invitation from this prelate to accompany him to Italy, Mr Scrimzeor greatly enlarged the sphere of his literary acquaintance, by his conversation and connection with most of the distinguished scholars of that country. The death of Francis Spira (B) happened during his visit at Padua; and as the character and conduct of this remarkable person at that time engaged the attention of the world, Mr Scrimzeor is said to have collected memoirs of him in a publication entitled, "The Life of Francis Spira, by Henry of Scotland." This performance, however, does not appear in the catalogue of his works.

After he had stored his mind with the literature of foreign countries, and satisfied his curiosity as a traveller,

(A) "Francis Duaren was the first of the French civilians who purged the chair in the civil law schools from the barbarisms of the Glossaries, in order to introduce the pure sources of the ancient jurisprudence. As he did not desire to share that glory with any one, he looked with an envious eye on the reputation of his colleague Eguinard Baron, who also mixed good literature with the knowledge of the law. This jealousy put him upon composing a work, wherein he endeavoured to lessen the esteem that people had for his colleague. The maxim, '*Pascitur in vivis linere; post fata quiescit*,' was verified remarkably in him; for after the death of Baron, he showed himself most zealous to eternize his memory, and was at the expence of a monument to the honour of the deceased." From the Translation of Bayle's Dict. of 1710, p. 1143-4.

(B) Francis Spira was a lawyer of great reputation at Cittadella in the Venetian state, at the beginning of the 16th century. He had imbibed the principles of the Reformation, and was accused before John de la Casa, archbishop of Benevento, the pope's nuncio at Venice. He made some concessions, and asked pardon of the papal minister for his errors. But the nuncio insisted upon a public recantation. Spira was exceedingly averse to this measure; but at the pressing instances of his wife and his friends, who represented to him that he must lose his practice and ruin his affairs by persisting against it, he at last complied. Shortly after he fell into a deep melancholy, lost his health, and was removed to Padua for the advice of physicians and divines; but his disorders augmented. The recantation, which he said he had made from cowardice and interest, filled his mind with continual horror and remorse; insomuch that he sometimes imagined that he felt the torments of the damned. No means being found to restore either his health or his peace of mind, in 1548 he fell a victim to his miserable situation. See Collyer's Dict.—Spira.

Scrimzeor. ler, it was his intention to have revisited Scotland. He might without vanity have entertained hopes, that the various knowledge which he had treasured would have won him a partial reception among his countrymen. An ambition of being usefully distinguished among them as a man of letters is justly supposed the principal motive of his desire to return: but the most sanguine projects of life are often strangely diverted by accident, or rather perhaps are invisibly turned by Providence, from their purposed course. Mr Scrimzeor, on his journey homewards, was to pass through Geneva. His fame had long forerun his footsteps. The syndics and other magistrates, upon his arrival, requested him to set up the profession of philosophy in that city; promising a compensation suitable to the exertion of his talents. He accepted the proposal, and established the philosophical chair.

After he had taught for some time at Geneva, a fire broke out in his neighbourhood, by which his house was consumed, and he himself reduced to great distress. His late pupils, the Bucherels, had not forgotten their obligations to him, and sent a considerable sum of money to his relief.

At this time flourished at Augsborg that famous mercantile family (c), the Fuggers. Ulric Fugger was then its representative; a man possessed of prodigious wealth, passionately fond of literature, a great collector of books and manuscripts, and a munificent patron of learned men. Being informed by means of his literary correspondence of the misfortune which had befallen Mr Scrimzeor in the burning of his house, he immediately sent him a pressing invitation to accept an asylum beneath his roof till his affairs could be re-established. Mr Scrimzeor, gladly availing himself of such a hospitable kindness, lost no time in going to Germany.

Whilst residing at Augsborg with Mr Fugger, he was much employed in augmenting his patron's library by vast collections, purchased from every corner of Europe. Manuscripts of the Greek and Latin authors were then of inestimable value, and seem to have been more particularly the object of Mr Scrimzeor's researches.

He did not lead a life of yawning indolence amidst these treasures, and, like a mere unfeeling collector, leave them unenjoyed. As librarian, he was not contented to act the part of a black eunuch to his literary seraglio. He seems to have forgotten that he was not its Grand Sultan, and accordingly ranged at will among surrounding beauties. He composed many works of great learning and ingenuity, whilst he continued in a situation so peculiarly agreeable to the views and habits of a scholar.

When his manuscripts were ready for the press, he was desirous of returning to Geneva to print them. His patron, Fugger, recommended him for this purpose to the very learned Henry Stephens, one of his pensioners, and at that time one of the most celebrated printers in Europe.

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Immediately on his arrival at Geneva, 1563, he was earnestly solicited by the magistrates to resume the chair of philosophy. Notwithstanding his compliance, and in consequence of it the dedication of much of his time to the study of physics, he, two years afterwards, instituted a course of lectures in the civil law, and had the honour of being its first founder and professor at Geneva.

As soon as he was settled again in this city, he hoped, amidst his other occupations, to prosecute the great object of his literary fame, the printing of his various works. But a suspicion which Henry Stephens entertained, that it was his intention to set up a rival press at Geneva, occasioned great dissensions between them. The result of the quarrel was, that the republic of letters, during Mr Scrimzeor's life, was deprived of his valuable productions. They fell most of them at his death into the hands of Isaac Casaubon, who has been accused of publishing considerable portions of them as his own.

Some account of Mr Scrimzeor's several performances will give an idea of his extensive erudition.

He wrote critical and explanatory notes upon Athenæus's (d) *Deipnosophists*, or Table-conversations of Philosophers and Learned Men of Antiquity; having first collated several manuscripts of his author. This work Casaubon published at Leyden in 1600; but without distinguishing his own notes from those of Scrimzeor.

A Commentary and Emendations of the Geography of Strabo were among our author's literary remains. These were published in Casaubon's Parisian edition of Strabo, 1620. Henry Stephens, from an idea of justice due to Scrimzeor's literary fame, notwithstanding the violent animosity which had subsisted betwixt them, reproaches Casaubon for adopting our Scottish critic's lucubrations on Strabo without acknowledgment.—Dempster assures us, that Scrimzeor, in his manuscript letters, mentions his design of publishing this performance; whence, it is probable, that his work appeared to himself of considerable consequence, and had taken up much of his attention. Although Casaubon, in his ample notes exhibited at the foot of Strabo's text, makes no confession of having derived any thing from Scrimzeor, it must not be concealed, that in an epistle to Sir Peter Young, our critic's nephew, through whom the Commentary and Emendations of Strabo came into his hands, Casaubon acknowledges how very useful to him they might be made; for speaking there of his intended edition of Strabo, he says, "It cannot be expressed how much assistance I may obtain from your notes of Scrimzeor."

Edward Herrison, a Scottish author, in his Commentary on Plutarch's Book concerning the Inconsistencies of the Stoics, informs us, that Scrimzeor collated different manuscripts of all the works of Plutarch. This undertaking appears sufficient to have occupied half the life of an ordinary critic. Every one knows how voluminous an author was the philosopher, the historian, and orator of Chæroneæ. Whether our learned critic

(c) They were ennobled by the emperor in 1510, under the title of Barons of Kirkberg and Weissenborn.

(d) Athenæus was a grammarian of Naucrates in Egypt, and lived in the second century. His *Deipnosophistæ* is a very curious and learned work, in 15 books. It is full of interesting anecdotes and descriptions of ancient manners, and has preserved many relics of Grecian poetry not to be found elsewhere.

Scrimzeor. critic had meant to publish an edition of Plutarch's works is not known; but such an intention should seem highly probable from this laborious enterprise of collating them.

The 10 books of Diogenes Laertius on the Lives, Opinions, and Apophthegms of the Philosophers, were collated from various manuscripts by Scrimzeor. His corrected text of this author, with notes full of erudition, came also into Casaubon's possession, and is supposed to have contributed much to the value of his edition of the Grecian Biographer, printed at Paris in 1593.

The works of Phornutus and Palæphatus were also among the collations of Mr Scrimzeor. To the latter of these authors he made such considerable additions, that the work became partly his own. These were two ancient authors who explain the fables of the heathen deities. The former wrote *De Natura Deorum, seu de Fabularum Poeticarum Allegoriis Speculatio*, "On the Nature of the Gods, or the Allegorical Fictions of the Poets." The latter entitled his book *ἄπιστα, Sive de falsis Narrationibus*, "Things incredible, or concerning false Relations." These works were printed at Basil, 1570; whether in Greek or Latin is uncertain. They have been published since in both languages.

The manuscripts of them were for some time preserved in the library of Sir Peter Young, after that of his uncle Scrimzeor, which was brought into Scotland in 1573, had been added to it. What became of this valuable bequest at the death of the former, is uncertain.

Our learned philologer left also behind him in manuscript the orations of Demosthenes, Æschines, and Cicero, and the Ecclesiastical History of Eusebius, all carefully collated.

Among his literary remains was a collection of his Latin epistles. The men of letters in the 15th and 16th centuries seem to have kept their republic, as it is called, more united and compact than it is at present, by an epistolary intercourse in the Latin language, then the universal medium of literature and science. This general spirit of communication could not but contribute greatly to the advancement of learning, as well as to the pleasure, and, we may add, to the importance, of those who were engaged in its pursuit. The intercourse and union of enlightened men, able and disposed to promote the happiness of their fellow-creatures, cannot be too close. From such intellectual combination alone it is, that uniformity of religious, moral, and political principles, to its greatest attainable degree, can ever be expected; or, in other words, the greatest possible benefit derived from the cultivation of letters.

Of the many performances which had exercised his pen, it does not appear that any were immediately published by himself but his Translation of Justinian's Novels into Greek. This was printed at Paris in 1558, and again with Holoander's Latin version at Antwerp in 1575. This work has been highly extolled, both for the purity of its language and the accuracy of its execution, and is likely, according to some respectable opinions, to hold its estimation as long as any use or memory of the civil law shall exist.

A Latin translation of the *Basilica*, or Basilics, as they are called by our civilians, is the last we have to

mention of this author's performances. This is a collection of Roman Laws, which the eastern emperors Basil and Leo, who reigned in the fifth century, commanded to be translated into Greek, and which preserved their authority till the dissolution of the eastern empire. The Basilics comprehend the institutes, digests, code, and novels, and some of the edicts of Justinian and other emperors. Of 60 original books, 41 only remain. Mr Scrimzeor collated them with various manuscripts, probably before he commenced his translation.

From the foregoing recital of the learned labours of this profound scholar and critic, it will be concluded, that almost the whole of his life, although long, was spent in his library, and that the biographer, having now terminated the catalogue of his writings, is probably not distant from the conclusion of his life. Different years have been assigned for the time of his death; but it appears most likely, from a comparison of the different accounts of this event, that it happened very near the expiration of 1571, or at the beginning of the succeeding year, about the 66th year of his age. He died in the city of Geneva.

The characteristic features of Scrimzeor are few, but they are prominent and striking, and remote posterity may regard him with no inferior degree of respect. His industry and perseverance in the pursuit of knowledge and erudition were equalled only by the exquisite judgment which he displayed in his critical annotations and commentaries on the errors and obscurities of ancient books and manuscripts.

His acquisitions in the Greek, Latin, and oriental languages, were reckoned much beyond those of most of the professed linguists of his time. The great Cusacius used to say, "That he never quitted Mr Scrimzeor's conversation without having learned something new." But that which lent peculiar grace to such superiority, was the amiable modesty which upon all occasions was observed to accompany it. From the commendation given him by the illustrious civilian just mentioned, it will be concluded, that he did not brood, with a jealous reserve, over unlocked treasures of erudition; but that, conscious of possessing stores too ample to be soon exhausted, at the same time that he avoided an ostentatious profusion of them, he obliged and delighted his friends by a liberal communication. From the period at which he lived, considered with the nature and extent of his studies, and his abilities in prosecuting them, he may deservedly be ranked among those eminent characters who have most successfully contributed their exertions to the revival of letters in Europe.

SCRIPTURE is a word derived from the Latin *Scriptura*, and in its original sense is of the same import with *writing*, signifying "any thing written." It is, however, commonly used to denote the writings of the Old and New Testaments; which are called sometimes *the Scriptures*, sometimes the *sacred* or *holy Scriptures*, and sometimes *canonical Scripture*. These books are called *the Scriptures* by way of eminence, as they are the most important of all writings; they are said to be *holy* or *sacred* on account of the sacred doctrines which they teach; and they are termed *canonical*, because when their number and authenticity were ascertained, their names were inserted in ecclesiastical *canons*, to distinguish

Scrimzeor,
Scriptures.

Scriptures
of the Old
and New
Testaments.

Scripture. ¹guish them from other books; which, being of no authority, were kept as it were out of sight, and therefore styled *apocryphal* (a).

²The authenticity of the Old Testament proved

³From the character of the Jews,

The authenticity of the Old Testament may be proved from the character of the Jews, from internal evidence, and from testimony.

1. The character of the Jews affords a strong presumptive evidence that they have not forged or corrupted the Old Testament. Were a person brought before a court of justice on a suspicion of forgery, and yet no presumption or positive evidence of his guilt could be produced, it would be allowed by all that he ought to be acquitted. But farther, if the forgery alleged were inconsistent with the character of the accused; if it tended to expose to disgrace and reproach his general principles and conduct; or if we were assured that he considered forgery as an impious and abominable crime—it would require very strong testimony to establish his guilt. The case now mentioned corresponds exactly with the character and situation of the Jews. If a Jew had forged any book of the Old Testament, he must have been impelled to so bold and dangerous an enterprise by some very powerful motive. It could not be national pride, for there is scarcely one of these books which does not severely censure the national manners. It could not be the love of fame; for that passion would have taught him to flatter and extol the national character; and the punishment, if detected, would have been infamy and death. The love of wealth could not produce such a forgery; for no wealth was to be gained.

The Jews were selected from the other nations of the world, and preserved a distinct people from the time of their emigration from Egypt to the Babylonish captivity, a period of 892 years. The principal purposes for which they were selected was to preserve in a world running headlong into idolatry the knowledge and worship of the one true God, and to be the guardians of those sacred books that contained the prophecies which were to prove to future ages the divine mission of the Redeemer of mankind. To fit them for these important trusts, the spirit of their laws and the rites of their religion had the strongest tendency. Miracles were openly performed, to convince them that the God of Israel was the God of all the earth, and that he alone was to be worshipped. Public calamities always befel them when they became apostates to their God; yet they continued violently attached to idolatry till their captivity in Babylon made them for ever renounce it.

The Jews then had two opposite characters at different periods of their history: At first they were addicted to idolatry; afterwards they acquired a strong antipathy against it.

Had any books of the Old Testament been forged before the Babylonish captivity, when the Jews were devoted to idolatry, is it to be conceived that the impostor would have inveighed so strongly against this vice, and so often imputed to it the calamities of the state; since by such conduct he knew that he would render himself obnoxious to the people and to those idolatrous monarchs who persecuted the prophets?

But it may next be supposed, that “the sacred books were forged after the Babylonish captivity, when the principles of the Jews would lead them to inveigh against the worship of idols. But these principles would surely never lead them to expose the character of their ancestors, and to detail their follies and their crimes. Never had any people more national pride, or a higher veneration for their ancestors, than the Jews. Miracles and prophecies ceased soon after their return to Jerusalem; and from that period their respect for the sacred books approached to superstition. They preserved them with pious care, they read them often in their synagogues, and they considered every attempt to alter the text as an act of sacrilege. Is it possible that such men could be guilty of forgery, or could false writings be easily imposed on them?

2. There is an internal evidence in the books of the Old Testament that proves them to have been written by different persons, and at distant periods; and enables us with precision to ascertain a time at or before which they must have been composed. It is an undeniable fact that Hebrew ceased to be the living language of the Jews during the Babylonish captivity, and that the Jewish productions after that period were in general written either in Chaldee or in Greek. The Jews of Palestine, some ages before the coming of our Saviour, were unable, without the assistance of a Chaldee paraphrase, to understand the Hebrew original. It necessarily follows, therefore, that every book which is written in pure Hebrew was composed either before or about the time of the Babylonish captivity. This being admitted, we may advance a step farther, and contend that the period which elapsed between the composition of the most ancient and the most modern book of the Old Testament was very considerable; or, in other words, that the most ancient books of the Old Testament were written many ages before the Babylonish captivity.

No language continues stationary; and the Hebrew, like other tongues, passed through the several stages of infancy, youth, manhood, and old age. If therefore, on comparison, the several parts of the Hebrew Bible are found to differ not only in regard to style, but also in regard to character and cultivation, we have strong internal marks that they were composed at different and distant periods. No classical scholar would believe, independent of the Grecian history, that the poems ascribed to Homer were written in the age of Demosthenes, the Orations of Demosthenes in the time of Origen, or the Commentaries of Origen in the time of Lascaris and Chrysoloras. For the very same reason, it is certain that the five books which are ascribed to Moses were not written in the time of David, the Psalms of David in the age of Isaiah, nor the prophecies of Isaiah in the time of Malachi; and since the Hebrew became a dead language about the time of the Babylonish captivity, the book of Malachi could not have been written much later. Before that period therefore were written the prophecies of Isaiah, still earlier the Psalms of David, and much earlier than these the books which are ascribed to Moses.

O 2

3. Let

(A) From *ἀποκρύφω*, to put out of sight.

Scripture.

5
From testi-
mony.

3. Let us now consider the evidence of testimony for the authenticity of the Old Testament. As the Jews were a more ancient people than the Greeks or Romans, and for many ages totally unconnected with them, it is not to be expected that we should derive much evidence from the historians of those nations: it is to the Jews alone we must look for information. But it has unfortunately happened that few of their works except the Scriptures themselves have been preserved to posterity. Josephus is the most ancient of the Jewish historians to whom we can appeal. He informs us, that the Old Testament was divided into three parts, the Law, the Prophets, and the Hagiographa or poetical books. No man, says he, hath ever dared to add or take away from them. He tells us also, that other books were written after the time of Artaxerxes; but as they were not composed by prophets, they were not reckoned worthy of the same credit.

Since the promulgation of the Christian religion, it is impossible that any material alterations or corruptions could have taken place in the books of the Old Testament; for they have been in the hands both of Jews and Christians from that period. Had the Jews attempted to make any alterations, the Christians would have detected and exposed them; nor would the Jews have been less severe against the Christians if they had corrupted the sacred text. But the copies in the hands of Jews and Christians agree; and therefore we justly conclude, that the Old Testament is still pure and uncorrupted.

The division mentioned by our Saviour into the Law, the Prophets, and the Psalms, corresponds with that of Josephus. We have therefore sufficient evidence, it is hoped, to convince even a deist, that the Old Testament existed at that time. And if the deist will only allow, that Jesus Christ was a personage of a virtuous and irreproachable character, he will acknowledge that we draw a fair conclusion when we assert that the Scriptures were not corrupted in his time: for when he accused the Pharisees of making the law of no effect by their traditions, and when he enjoined his hearers to search the Scriptures, he could not have failed to mention the corruptions or forgeries of Scripture, if any in that age had existed. But we are assured, by very respectable authority, that the canon of the Old Testament was fixed some centuries before the birth of Jesus Christ. Jesus the son of Sirach, the author of Ecclesiasticus, makes evident references to the prophecies of Isaiah*, Jeremiah†, and Ezekiel‡, and mentions these prophets by name. He speaks also of the twelve minor prophets§. It appears also from the prologue, that the law and the prophets, and other ancient books, existed at the same period. The book of Ecclesiasticus, according to the calculations of the best chronologers, was written in Syriac about A. M. 3772, that is, 232 years before the Christian era, and was translated into Greek in the next century by the grandson of the author. The prologue was added by the translator: but this circumstance does not diminish the evidence for the antiquity of Scripture; for he informs us, that the law and the prophets, and the other books of their fathers, were studied by his grandfather: a sufficient proof that they existed in his time. As no authentic books of a more ancient date, except the sacred writings them-

elves, have reached our time, we can ascend no higher in search of testimony.

There is, however, one remarkable historical fact, which proves the existence of the law of Moses at the dissolution of the kingdom of Israel, when the ten tribes were carried captive to Assyria by Shalmaneser, and dispersed among the provinces of that extensive empire; that is, about 741 years before Christ. It was about that time the Samaritans were transported from Assyria to repopulate the country, which the ten captive tribes of Israel had formerly inhabited. The posterity of the Samaritans still inhabit the land of their fathers, and have preserved copies of the Pentateuch, two or three of which were brought to this country in the last century. The Samaritan Pentateuch is written in old Hebrew characters (see PHILOLOGY, n° 28), and therefore must have existed before the time of Ezra. But so violent were the animosities which subsisted between the Jews and Samaritans, that in no period of their history would the one nation have received any books from the other. They must therefore have received them at their first settlement in Samaria from the captive priest whom the Assyrian monarch sent to teach them how they should fear the Lord (2 Kings xvii.)

The canon of the Old Testament, as both Jewish and Christian writers agree, was completed by Ezra and some of his immediate successors (see BIBLE). In our copies the sacred books are divided into 39. The Jews reckoned only 22, corresponding to the number of letters in the Hebrew alphabet. They united the books of Judges and Ruth; they joined the two books of Samuel; the books of Kings and Chronicles were reckoned one; Ezra and Nehemiah one; the Prophecies and Lamentations of Jeremiah were taken under the same head; and the 12 minor prophets were considered as one book—so that the whole number of books in the Jewish canon amounted to 22.

The Pentateuch consists of the five books Genesis, Exodus, Leviticus, Numbers, and Deuteronomy. Several observations have been already made respecting the authenticity of these under the article PENTATEUCH; but several additional remarks have occurred, which may not improperly be given in this place. For many of these we acknowledge ourselves indebted to a sermon published by the reverend Mr Marsh, whose research and learning and critical accuracy will be acknowledged by every reader of discernment.

One of the strongest arguments that have occurred to us in support of the authenticity of the Pentateuch, and the inspiration of the writer, has already been given under the article RELIGION, n° 14, &c. which see: But we shall in this place present two arguments of a different kind, which would be sufficient to prove at least the former of these conclusions. We argue from the language and contents of the Mosaic writings, and from the testimony of the other books of Scripture.

From the contents and language of the Pentateuch there arises a very strong presumption that Moses was its author. The very mode of writing in the four last books discovers an author contemporary with the events which he relates; every description, both religious and political, is a proof that the writer was present at each respective scene; and the legislative and historical parts

* Ecclesi-
asticus
xlviii. 22.
† xlix. 6.
‡ xlix. 8.
§ xlix. 10.

Scripture.

6
The canon
of the Old
Testament
settled.

7
The Pen-
tateuch
written by
Moses.

8
Proved by
internal
evidence.

Scripture are so interwoven with each other, that neither of them could have been written by a man who lived in a later age. The account which is given in the book of Exodus of the conduct of Pharaoh towards the children of Israel, is such as might be expected from a writer who was not only acquainted with the country at large, but had frequent access to the court of its sovereign: and the minute geographical description of the passage thro' Arabia is such, as could have been given only by a man like Moses, who had spent 40 years in the land of Midian. The language itself is a proof of its high antiquity, which appears partly from the great simplicity of the style, and partly from the use of archaisms or antiquated expressions, which in the days even of David and Solomon were obsolete (B). But the strongest argument that can be produced to show that the Pentateuch was written by a man born and educated in Egypt, is the use of Egyptian words; words which never were, or ever could have been, used by a native of Palestine: and it is a remarkable circumstance, that the very same thing which Moses had expressed by a word that is pure Egyptian, Isaiah, as might be expected from his birth and education, has expressed by a word that is purely Hebrew (C).

And by testimony. That Moses was the author of the Pentateuch is proved also from the evidence of testimony. We do not here quote the authority of Diodorus Siculus, of Longinus, or Strabo, because their information must have been derived from the Jews. We shall seek no authority but that of the succeeding sacred books themselves, which bear internal evidence that they were written in different ages, and therefore could not be forged unless we were to adopt the absurd opinion that there was a succession of impostors among the Jews who united together in the same fraud. The Jews were certainly best qualified to judge of the authenticity of their own books. They could judge of the truth of the facts recorded, and they could have no interest in adopting a forgery. Indeed, to suppose a whole nation combined in committing a forgery, and that this combination should continue for many hundred years, would be the most chimerical supposition that ever entered into the mind of man. Yet we must make this supposition, if we reject the historical facts of the Old Testament. No one will deny that the Pentateuch existed in the time of Christ and his apostles; for they not only mention it, but quote it. "This we admit," reply the advocates for the hypothesis which we are now combating; "but you cannot therefore conclude that Moses was the author; for there is reason to believe it was composed by Ezra." But unfortunately for men of this opinion, both Ezra and Nehemiah ascribe the book of the law to Moses †. 2. The Pentateuch was in the possession of the Samaritans before the time of Ezra. 3. It existed in the reign of Amaziah king of Judah, A. C. 839

years †. 4. It was in public use in the reign of Jehoshaphat, A. C. 912; for that virtuous prince appointed Levites and priests who taught in Judah, and had the book of the law of the Lord with them, and went about throughout all the cities of Judah and taught the people †. 5. It is referred to by David in his dying admonitions to Solomon †. The same royal bard makes many allusions to it in the book of Psalms, and sometimes quotes it *. There remains therefore only one resource to those who contend that Moses was not the author, viz. that it was written in the period which elapsed between the age of Joshua and that of David. But the whole history of the Jews from their settlement in Canaan to the building of the temple presupposes that the book of the law was written by Moses. 6. We have satisfactory evidence that it existed in the time of Joshua. One passage may be quoted where this fact is stated. The Divine Being makes use of these words to Joshua: "Only be thou strong, and very courageous, that thou mayest observe to do all according to the law which Moses my servant commanded thee: turn not from it to the right hand or to the left, that thou mayest prosper whithersoever thou goest. This book of the law shall not depart out of thy mouth; but thou shalt meditate therein day and night, that thou mayest observe to do according to all that is written therein †."

To the foregoing demonstration objections may be stated. "We will admit the force of your arguments, and grant that Moses actually wrote a work called the book of the law; but how can we be certain that it was the very work which is now current under his name? And unless you can show this to be at least probable, your whole evidence is of no value." To illustrate the force or weakness of this objection, let us apply it to some ancient Greek author, and see whether a classical scholar would allow it to be of weight. "It is true that the Greek writers speak of Homer as an ancient and celebrated poet; it is true also that they have quoted from the works which they ascribe to him various passages that we find at present in the Iliad and Odyssey: yet still there is a possibility that the poems which were written by Homer, and those which we call the Iliad and Odyssey, were totally distinct productions." Now an advocate for Greek literature would reply to this objection, not with a serious answer, but with a smile of contempt; and he would think it beneath his dignity to silence an opponent who appeared to be deaf to the clearest conviction. But still more may be said in defence of Moses than in defence of Homer; for the writings of the latter were not deposited in any temple or sacred archive, in order to secure them from the devastations of time; whereas the copy of the book of the law, as written by Moses, was intrusted to the priests and the elders, preserved in the ark of the covenant, and

(B) For instance, *ille*, and *puer*, which are used in both genders by no other writer than Moses. See Gen. xxiv. 14. 16. 28. 55. 57. xxxviii. 21. 25.

(C) For instance, *אמר* (perhaps written originally *אמי*, and the *v* lengthened into *y* by mistake), written by the Seventy *אמי* or *אמי*, Gen. xli. 2. and *אמר*, written by the Seventy *אמי* or *אמי*. See *La Croze Lexicon Aegyptiacum*, art. AXI and OHBI.

The same thing which Moses expresses by *אמי*, Gen. xli. 2. Isaiah xix. 7. expresses by *אמר*, for the Seventy have translated both of these words by *אמי*.

† Joshua i. 7, 8. viii. 31. xxiii. 6. 10
General objections answered.

Scripture. † 2 Chron. xxv. 4. 2 Kings xiv. 6. † 2 Chron. xvii. 8, 9. † 1 Kings ii. 3. * Comp. Psalm ciii. 7, 8. with Exod. xxxiv. 6. in the original, where the words are the very same.

† Ezra iii. 2. viii. 14. Nehem. xiii. 1.

Scripture.

and read to the people every seventh year (D). Sufficient care therefore was taken not only for the preservation of the original record, but that no spurious production should be substituted in its stead. And that no spurious production ever has been substituted in the stead of the original composition of Moses, appears from the evidence both of the Greek and the Samaritan Pentateuch. For as these agree with the Hebrew, except in some trifling variations (E), to which every work is exposed by length of time, it is absolutely certain that the five books which we now ascribe to Moses are one and the same work with that which was translated into Greek in the time of the Ptolemies, and, what is of still greater importance, with that which existed in the time of Solomon. And as the Jews could have had no motive whatsoever, during that period which elapsed between the age of Joshua and that of Solomon, for substituting a spurious production instead of the original as written by Moses, and, even had they been inclined to attempt the imposture, would have been prevented by the care which had been taken by their lawgiver, we must conclude that our present Pentateuch is the very identical work that was delivered by Moses.

Particular
objections
obviated.

The positive evidence being now produced, we shall endeavour to answer some particular objections that have been urged. But as most of these occur in the book of Genesis, we shall reserve them for separate examination, and shall here only consider the objections peculiar to the four last books. They may be comprised under one head, viz. expressions and passages in these books which could not have been written by Moses. 1. The account of the death of Moses, in the last chapter of Deuteronomy, we allow must have been added by some succeeding writer; but this can never prove that the book of Deuteronomy is spurious. What is more common among ourselves than to see an account of the life and death of an author subjoined to his works, without informing us by whom the narrative was written? 2. It has been objected, that Moses always speaks of himself in the third person. This is the objection of foolish ignorance, and therefore scarcely deserves an answer. We suspect that such persons have never read the classics, particularly Cæsar's Commentaries, where the author uniformly speaks of himself in the third person, as every writer of correct taste will do who reflects on the absurdity of employing the pronoun of the first person

in a work intended to be read long after his death. (See GRAMMAR, n° 33.) 3. As to the objection, that in some places the text is defective, as in Exodus xv. 8. it is not directed against the author, but against some transcriber; for what is wanting in the Hebrew is inserted in the Samaritan. 4. The only other objection that deserves notice is made from two passages. It is said in one place that the bed of Og is at Ramah *to this day*; and in another (Deut. iii. 14.), "Jair the son of Manasseh took all the country of Argob unto the coasts of Geshuri and Maacathi, and called them after his own name, Bashan-havoth-jair, *unto this day*." The last clause in both these passages could not have been written by Moses, but it was probably placed in the margin by some transcriber by way of explanation, and was afterwards by mistake inserted in the text. Whoever doubts the truth of this assertion may have recourse to the manuscripts of the Greek Testament, and he will find that the spurious additions in the texts of some manuscripts are actually written in the margin of others (F).

That the Pentateuch, therefore, at least the four last books of it, was written by Moses, we have very satisfactory evidence; which, indeed, at the distance of 3000 years is wonderful, and which cannot be affirmed of any profane history written at a much later period.

The book of Genesis was evidently not written by a person who was contemporary with the facts which he records; for it contains the history of 2369 years, a period comprehending almost twice as many years as all the rest of the historical books of the Old Testament put together. Moses has been acknowledged as the author of this book by all the ancient Jews and Christians; but it has been a matter of dispute from what source he derived his materials; some affirming that all the facts were revealed by inspiration, and others maintaining that he procured them from tradition.

Some who have looked upon themselves as profound philosophers, have rejected many parts of the book of Genesis as fabulous and absurd; but it cannot be the wisdom of philosophy, but the vanity of ignorance, that could lead to such an opinion. In fact, the book of Genesis affords a key to many difficulties in philosophy which cannot otherwise be explained. It has been supposed that the diversities among mankind prove that they are not descended from one pair; but it has been fully

Authenticity of the book of Genesis.

(D) "And Moses wrote this law, and delivered it unto the priests the sons of Levi, which bare the ark of the covenant of the Lord, and unto all the elders of Israel. And Moses commanded them, saying, At the end of every seven years, in the solemnity of the year of release, in the feast of tabernacles, when all Israel is come to appear before the Lord thy God, in the place which he shall choose, thou shalt read this law before all Israel in their hearing. And it came to pass, when Moses had made an end of writing the words of this law in a book until they were finished, that Moses commanded the Levites, which bare the ark of the covenant of the Lord, saying, Take this book of the law, and put it in the side of the ark of the covenant of the Lord your God." Deut. xxxi. 9—11. 24—26. There is a passage to the same purpose in Josephus: *ἀναγινώσκοντες τὴν πρὸς γράμματα, Josephi Antiquitat. Lib. V. c. 1. § 17. ed. Hudson.*

(E) See the collation of the Hebrew and Samaritan Pentateuch, in the 6th vol. of the *London Polyglot*. p. 19. of the *Animadversiones Samariticae*.

(F) To mention only two examples. 1. The common reading, 1 Cor. xvi. 2. is *μὴν σαββάτων*; but the Codex Pitavian. 3. has *τὴν κυριακὴν* in the margin; and in one of the manuscripts which Beza used, this marginal addition has been obtruded in the text. See his note on this passage. 2. Another instance is, 1 John ii. 27. where the genuine reading is *χρῖσμα*; but Wetstein quotes two manuscripts, in which *πνεῦμα* is written in the margin; and this marginal reading has found its way not only into the Codex Covelli 2. but into the Coptic and Ethiopic versions.

Scripture. fully shewn that all these diversities may be accounted for by natural causes. It has been reckoned a great difficulty to explain how fossil shells were introduced into the bowels of the earth; but the deluge explains this fact better than all the romantic theories of philosophers. It is impossible to account for the origin of such a variety of languages in a more satisfactory manner than is done in the account of the confusion of tongues which took place at Babel. It would be no easy matter to shew why the sea of Sodom is so different from every other sea on the globe which has yet been explored, if we had not possessed the scriptural account of the miraculous destruction of Sodom and Gomorrah. It is saturated with bitumen and salt, and contains no fishes. These are very singular facts, which have been fully established by late travellers. The book of Genesis, too, has been treated with contempt, because it makes the world less ancient than is necessary to support the theories of modern philosophers, and because it is difficult to reconcile the chronologies of several nations with the opinion that the world is not above 6000 or 7000 years old. The Chaldeans, in the time of Cicero, reckoned up 470,000 years. The Egyptians pretend that they have records extending 50,000 years back; and the Hindoos go beyond all bounds of probability, carrying back their chronology, according to Halhed, more than 7,000,000 of years.

13 Mosaic chronology vindicated. An attempt has been made by M. Bailly, lately mayor of Paris, to reconcile these magnified calculations with the chronology of the Septuagint, which is justly preferred to the Hebrew. (See SEPTUAGINT.) He informs us, that the Hindoos, as well as the Chaldeans and Egyptians, had years of arbitrary determination. They had months of 15 days, and years of 60 days, or two months. A month is a night and day of the patriarchs; a year is a night and day of the gods; four thousand years of the gods are as many hundred years of men. By attention to such modes of computation, the age of the world will be found very nearly the same in the writings of Moses, and in the calculations and traditions of the Bramins. With these also we have a remarkable coincidence with the Persian chronology. Bailly has established these remarkable epochas from the Creation to the Deluge.

The Septuagint gives	- - -	2256 years.
The Chaldeans	- - -	2222
The Egyptians	- - -	2340
The Persians	- - -	2000
The Hindoos	- - -	2000
The Chinese	- - -	2300

The same author has also shewn the singular coincidence of the age of the world as given by four distinct and distant situated people.

The ancient Egyptians,	- - -	5544 years.
The Hindoos,	- - -	5502
The Persians	- - -	5501
The Jews, according to Josephus,	- - -	5555

Having made these few remarks, to shew that the facts recorded in Genesis are not inconsistent with truth, we shall now, by a few observations, confirm the evidence, from testimony, that Moses was the author, and answer the objections that seem strongest.

There arises a great probability, from the book of Genesis itself, that the author lived near the time of Joseph; for as we advance towards the end of that book,

the facts gradually become more minute. The materials of the antediluvian history are very scanty. The account of Abraham is more complete; but the history of Jacob and his family is still more fully detailed. This is indeed the case with every history. In the early part, the relation is very short and general; but when the historian approaches his own time, his materials accumulate. It is certain, too, that the book of Genesis must have been written before the rest of the Pentateuch; for the allusions in the last four books to the history of Abraham, of Isaac, and Jacob, are very frequent. The simplicity of the style shows it to be one of the most ancient of the sacred books; and perhaps its similarity to the style of Moses would determine a critic to ascribe it to him. It will be allowed, that no man was better qualified than Moses to compose the history of his ancestors. He was learned in all the wisdom of the Egyptians, the most enlightened nation of his time, and he had the best opportunities of obtaining accurate information. The short account of the antediluvian world could easily be remembered by Abraham, who might obtain it from Shem, who was his contemporary. To Shem it might be conveyed by Methuselah, who was 340 years old when Adam died. From Abraham to Moses, the interval was less than 400 years. The splendid promises made to that patriarch would certainly be carefully communicated to each generation, with the concomitant facts: and thus the history might be conveyed to Moses by the most distinguished persons. The accounts respecting Jacob and his son Joseph might be given to Moses by his grandfather Kohath, who must have been born long before the descent to Egypt; and Kohath might have heard all the facts respecting Abraham and Isaac from Jacob himself. Thus we can easily point out how Moses might derive the materials of the book of Genesis, and especially of the last 38 chapters, from the most authentic source.

It will now be necessary to consider very shortly the objections that have been supposed to prove that Genesis could not have been written by Moses. 1. It is objected, that the author of the first chapters of Genesis must have lived in Mesopotamia, as he discovers a knowledge of the rivers that watered Paradise, of the cities Babylon, Erech, Refen, and Calneh; of the gold of Pison; of the bdellium and onyx stone. But if he could not derive this knowledge from the wisdom of the Egyptians, which is far from being improbable, he might surely obtain it by tradition from Abraham, who was born and brought up beyond the Euphrates. 2. In Genesis xiv. 14. it is said, Abraham pursued the four confederate kings to Dan, yet that name was not given till after the conquest of Palestine*. We answer, this might be inserted by a transcriber. But such a supposition is not necessary; for though we are told in the book of Judges that a city originally called Laish received then the name of Dan, this does not prove that Laish was the same city with the Dan which is mentioned in Genesis. The same answer may be given to the objection which is brought from Genesis xxxv. 21. where the tower of Eder is mentioned, which the objectors say was the name of a tower over one of the gates of Jerusalem. But the tower of Eder signifies the tower of the flocks, which in the pastoral country of Canaan might be a very common name. 3. The most formidable objection is derived from these two passages, Gen. xii. 6. "And

24. Objections to the authenticity of the book of Genesis obviated.

* Judges chap. xviii.

Scripture. "And the Canaanite was then in the land." Gen. xxxvi. 31. "These are the kings that reigned over the land of Edom, before there reigned any king over the children of Israel." Now, it is certain that neither of these passages could be written by Moses. We allow they were added by a later writer; but this circumstance cannot invalidate the evidence which has been already produced. It does not prove that Moses was not the author of the book of Genesis, but only that the book of Genesis has received two alterations since his death.

15
The book
of Exodus.

According to Rivet, our Saviour and his Apostles have cited 27 passages verbatim from the book of Genesis, and have made 38 allusions to the sense.

The book of Exodus contains the history of the Israelites for about 145 years. It gives an account of the slavery of the Israelites in Egypt; of the miracles by which they were delivered; of their passage through the Red Sea, and journey through the wilderness; of the solemn promulgation of the Decalogue on Mount Sinai, and of the building and furniture of the Tabernacle. This book is cited by David, by Daniel, and other sacred writers. Twenty-five passages are quoted by our Saviour and his apostles in express words, and they make 19 allusions to the sense.

16
Leviticus.

The book of Leviticus contains the history of the Israelites for one month. It consists chiefly of laws. Indeed, properly speaking, it is the code of the Jewish ceremonial and political laws. It describes the consecration of Aaron and his sons, the daring impiety and exemplary punishment of Nadab and Abihu. It reveals also some predictions respecting the punishment of the Israelites in case of apostacy; and contains an assurance that every sixth year should produce abundance to support them during the seventh or sabbatical year. This book is quoted as the production of Moses in several books of scripture.*

* 2 Chron.
xxx. 16.
Jerem. vii.
22, 23.
ix. 16.
Ezek. xx.
xi.
Matth.
viii. 4.
Rom. x. 5.
xiii. 9.
2 Cor. vi.
16.
Gal. iii. 12.
1 Pet. i. 10.

17
Numbers.

† Numb. i.
xxvi.

§ Numb.
xxiv. 17,
19.

* Joshua
iv. 12.

2 Chron.
xxix. 11.

xxxi. 3.

Ezek. xx.
13. xlv. 27.

Matth.
xii. 5.

John vi.
31. ix. 36.

18
Deuteronomy.

The book of Numbers comprehends the history of the Israelites for a period of about 38 years, reckoning from the first day of the second month after their departure from Egypt. It contains an account of two numberings of the people; the first in the beginning of the second year of their emigration, the second in the plains of Moab towards the conclusion of their journey in the wilderness†. It describes the ceremonies employed at the consecration of the tabernacle, gives an exact journal of the marches and encampments of the Israelites, relates the appointment of the 70 elders, the miraculous cure performed by the brazen serpent, and the misconduct of Moses when he was commanded to bring water from the rock. There is also added an account of the death of Aaron, of the conquest of Sihon and Og, and the story of Balaam, with his celebrated prophecy concerning the Messiah§.

The book of Numbers is quoted as the work of Moses in several parts of Scripture*.

The book of Deuteronomy comprehends a period of nearly two months. It consists of an interesting address to the Israelites, in which Moses recalls to their remembrance the many instances of divine favour which they had experienced, and reproaches them for their ingratitude. He lays before them, in a compendious form, the laws which he had formerly delivered, and makes some explanatory additions. This was the more necessary, because the Israelites, to whom they had been originally promulgated, and who had seen the miracles in Egypt, at the Red Sea, and Mount Sinai, had died in

the wilderness. The divine origin of these laws, and the miracles by which they were sanctioned, must already have been well known to them; yet a solemn recapitulation of these by the man who had miraculously fed the present generation from their infancy, who by the lifting up of his hands had procured them victory in the day of battle, and who was going to leave the world to give an account of his conduct to the God of Israel, could not but make a deep and lasting impression on the minds of all who heard him. He inculcates these laws by the most powerful motives. He presents before them the most animating rewards, and denounces the severest punishments to the rebellious. The prophecies of Moses towards the end of this book, concerning the fate of the Jews, their dispersions and calamities, the conquest of Jerusalem by the Romans, the miseries of the besieged, and the present state of the Jewish nation, cannot be read without astonishment. They are perspicuous and minute, and have been literally accomplished.

This book is cited as the production of Moses by Christ and his apostles*.

4. The historical books are 12 in number, Joshua, Judges, Ruth, Samuel I. and II. Kings I. and II. Chronicles, Ezra, Nehemiah, Esther. These, if considered distinctly from the Pentateuch, and the writings more properly styled prophetical, contain a compendium of the Jewish history from the death of Moses, A. M. 2552, to the reformation established by Nehemiah after the return from the captivity, A. M. 3595, comprehending a period of 1043 years.

To enable us to discover the authors of these books, we have no guide to conduct us but conjecture, internal evidence, or the authority of the modern Jews. From the frequent references in Scripture, and from the testimony of Josephus, it appears that the Jews were in possession of many historical records which might have thrown much light upon this subject if they had still been preserved. But during the calamities which befel that insatuated nation in their wars with the Romans, and the dispersion which followed, these writings have perished. But though we can produce no testimony more ancient than the age of our Saviour to authenticate the historical books, yet there are some facts respecting the mode of their preservation which entitle them to credit. The very circumstance itself, that the Jews have preserved them in the sacred volume to this day, while their other ancient books have been lost, is a proof that they considered them as the genuine records of their nation. Josephus†, whose authority is of great importance, informs us, that it was the peculiar province of the prophets and priests to commit to writing the annals of the nation, and to preserve them to posterity. That these might be faithfully preserved, the sacerdotal function was made hereditary, and the greatest care was observed to prevent intermarriages either with foreigners or with the other tribes. No man could officiate as a priest who could not prove his descent in a right line by unquestionable evidence‡. Registers were kept in Jerusalem, which at the end of every war were regularly revised by the surviving priests; and new ones were then composed. As a proof that this has been faithfully performed, Josephus adds, that the names of all the Jewish priests, in an uninterrupted succession from father to son, had been registered for 2000 years; that is, from the time of Aaron to the age of Josephus.

* Matth.
iv. 4.
John i. 45.
Acts iii. 22.
Gal. iii. 13.

19
The histo-
ric books,

20
Deserving
of the full-
est credit.

† Contra
Apion,
lib. I.

‡ Ezra ii.
61, 62.

Scripture. The national records were not allowed to be written by any man who might think himself fit for the office; and if a priest falsified them, he was excluded from the altar and deposed from his office. Thus we are assured, the Jewish records were committed to the charge of the priests; and as they may be considered as the same family from Aaron to the Babylonish captivity and downwards, the same credit is due to them that would be due to family records, which by antiquarians are esteemed the most authentic sources of information.

Authenticity of the Hebrew records. Of the 22 books which Josephus reckoned himself bound to believe, the historical books from the death of Moses to the reign of Artaxerxes, he informs us, were written by contemporary prophets. It appears, then, that the prophets were the composers, and the priests the hereditary keepers, of the national records. Thus, the best provision possible was made that they should be written accurately, and be preserved uncorrupted. The principal office of these prophets was to instruct the people in their duty to God, and occasionally to communicate the predictions of future events. For this purpose they were educated in the schools of the prophets, or in academies where sacred learning was taught. The prophets were therefore the learned men of their time, and consequently were best qualified for the office of historians. It may be objected, that the prophets, in concert with the priests, might have forged any writings they pleased. But before we suspect that they have done so in the historical books of the Old Testament, we must find out some motive which could induce them to commit so daring a crime. But this is impossible. No encomiums are made either upon the prophets or the priests; no adulation to the reigning monarch appears, nor is the favour of the populace courted. The faults of all ranks are delineated without reserve. Indeed there is no history extant that has more the appearance of impartiality. We are presented with a simple detail of facts, and are left to discover the motives and intentions of the several characters; and when a character is drawn, it is done in a few words, without exaggerating the vices or amplifying the virtues.

It is of no real consequence, therefore, whether we can ascertain the authors of the different books or not. From Josephus we know that they existed in his time; and from his account of the manner in which they were preserved we are assured they were not in danger of being corrupted. They existed also when the Septuagint translation was made. Frequent references are made to them in the writings of the later prophets; sometimes the same facts are related in detail. In short, there is such a coincidence between the historical books and the writings of those prophets who were contemporary, that it is impossible to suppose the latter true without receiving the former.

Indeed, to suppose that the Jews could have received and preserved with such care for so many hundred years false records, which it must have been in the power of every person to disprove, and which at the same time do so little credit to the character of their nation,

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is to suppose one of the greatest absurdities in the world: it is to suppose that a whole nation could act contrary to all those principles which have always predominated in the human mind, and which must always predominate till human nature undergo a total revolution.

The book which immediately follows the Pentateuch has been generally ascribed to Joshua the successor of Moses. It contains, however, some things which must have been inserted after the death of Joshua. It is necessary to remark, that there is some accidental derangement in the order of the chapters of this book, which was probably occasioned by the ancient mode of fixing together a number of rolls. If chronologically placed, they should be read thus, 1st chapter to the 10th verse, then the 2d chapter; then from the 10th verse to the end of the 1st chapter; afterwards should follow the vi. vii. viii. ix. x. and xi. chapters; then the xxii.; and lastly the xii. and xiii. chapters to the 24th verse of the latter.

The facts mentioned in this book are referred to by many of the sacred writers §. In the book of Kings, xvi. 34. the words of Joshua are said to be the words of God. See JOSHUA.

By whom the book of Judges was written is uncertain; but as it contains the history of the Jewish republic for 317 years, the materials must have been furnished by different persons. The book, however, seems to be the composition of one individual (c), who lived after the regal government was established †, but before the accession of David: for it is said in the 21st verse of the 1st chapter, that the Jebusites were still in Jerusalem; who, we know, were dispossessed of that city early in the reign of David ¶. We have reason, therefore, to ascribe this book to Samuel.

The history of this book may be divided into two parts; the first contains an account of the Judges from Othniel to Samson, ending at the 16th chap. The second part relates several remarkable transactions which occurred soon after the death of Joshua; but are thrown to the end of the book, that they might not interrupt the course of the history. See JUDGES.

The book of Ruth is a kind of supplement to the book of Judges, and an introduction to the history of David, as it is related in the books of Samuel. Since the genealogy which it contains descends to David, it must have been written after the birth of that prince, but not at any considerable time after it; for the history of Boaz and Ruth, the great-grandfather and great-grandmother of David, could not be remembered above two or three generations. As the elder brothers of David and their sons are omitted, and none of his own children are mentioned in the genealogy, it is evident that the book was composed in honour of the Hebrew monarch, after he was anointed king by Samuel, and before any of his children were born; and consequently in the reign of Saul. The Jews ascribe it to Samuel; and indeed there is no person of that age to whom it may be attributed with more propriety. We are informed (1 Sam. x. 25.) that Samuel was a writer, and

(c) In support of this opinion, it may be observed, that the author, chap. ii. 10, &c. lays before us the contents of the book.

Scripture. and are assured that no person in the reign of Saul was so well acquainted with the splendid prospects of David as the prophet Samuel.

²⁵
The two
books of
Samuel.

The Greeks denominate the books of Samuel, which follow next in order, *The Books of Kingdoms*; and the Latins, *The Books of Kings I. and II.* Anciently there were but two books of Kings; the first was the two books of Samuel, and the second was what we now call the two books of Kings. According to the present division, these two books are four, viz. the first and second books of Samuel, and the first and second books of Kings.

§ 1 Chron.
xxix, 29,

Concerning the author of the two books of Samuel there are different opinions. Some think that Samuel wrote only twenty or twenty-four chapters of the first book, and that the history was continued by Nathan and Gad. This opinion they ground on the following passage in *Chronicles* §, "Now the acts of David the king, first and last, behold they are written in the book of Samuel the seer, and in the book of Nathan the prophet, and Gad the seer." Others think they were compiled by Ezra from ancient records; but it is evident that the books of Samuel were written before the books of Kings and Chronicles; for on comparison it will be found, that in the last mentioned books many circumstances are taken from the former. The first book carries down the history of the Israelites from the birth of Samuel to the fatal battle of Gilboa, comprehending a period of about 80 years. The second relates the history of David from his succession to the throne of Israel till within a year or two of his death, containing 40 years. There are two beautiful passages in these books which every man of sentiment and taste must feel and admire, the lamentation or elegy on Saul and Jonathan, and the parable of Nathan. The impartiality of the historian is fully attested by the candour and freedom with which the actions of Saul and David are related. There are some remarks interspersed which were probably added by Ezra.

²⁶
Of Kings.

When the two books of Kings were written, or by whom they were compiled, is uncertain. Some have supposed that David, Solomon, and Hezekiah, wrote the history of their own times. Others have been of opinion that the prophets, viz. Isaiah, Jeremiah, Gad, and Nathan, each of them wrote the history of the reign in which he lived. But it is generally believed that Ezra wrote these two books, and published them in the form in which we have them at present. There can be no doubt but the prophets drew up the lives of the kings who reigned in their times; for the names and writings of those prophets are frequently mentioned, and cited. Still, however, it is evident that the two books of Kings are but an abridgment of a larger work, the substance of which is contained in the books before us. In support of the opinion that Ezra is the author of these books, it is said, That in the time of the penman, the ten tribes were captives in Assyria, whither they had been carried as a punishment for their sins: That in the second of these books the author makes some reflections on the calamities of Israel and Judah, which demonstrate that he lived after that event. But to this it is objected, That the author of these books expresses himself throughout as a contemporary, and as one would have done who had been an eye and ear witness of what he related. To this objection it is answered,

That Ezra compiled these books from the prophetic writings which he had in his possession; that he copied them exactly, narrating the facts in order as they happened, and interspersed in his history some reflections and remarks arising from the subjects which he handled.

The first book comprises a period of 126 years, from the death of David to that of Jehoshaphat. The second book records the transactions of many kings of Judah and Israel for the space of about 300 years, from the death of Jehoshaphat to the destruction of Jerusalem and the temple, A. M. 3416. A. C. 588.

The Hebrews style the two books of Chronicles *De-beri Imim* §, i. e. *Words of days*, journals or diaries, in allusion to those ancient journals which appear to have been kept among the Jews. The Greeks call them *Paralipomena* ¶, which signifies *things omitted*; as if these two books were a kind of supplement to inform us what had been omitted or too much abridged in the books of Kings. The two books of Chronicles contain indeed several particulars which are not to be met with in the other books of scripture: but it is not therefore to be supposed that they are the records of the kings of Judah and Israel, so often referred to in the books of Kings. Those ancient registers were apparently much more copious than the books before us; and the compiler of the books of Chronicles often refers to them, and makes long extracts from them.

Some suppose that the author of these two books was the same with that of the two books of Kings. The Jews say that they were written by Ezra, after the return from the captivity, assisted by Zechariah and Haggai, who were then alive. But events are mentioned in them of so late a date as to show that he could not have written them in their present form; and there is another objection to his being their author, which is little less forcible: between the books of Kings and Chronicles there is a great number of variations both in dates and facts, which could not have happened if Ezra had been the author of them, or indeed if they had been the work of any one person.

The books of Chronicles are not to be considered merely as an abridgment of former histories with some useful additions, but as books written with a particular view; which seems to have been to furnish a genealogical register of the twelve tribes, deduced from the earliest times, in order to point out those distinctions which were necessary to discriminate the mixed multitude that returned from Babylon; to ascertain the lineage of Judah; and to re-establish on their ancient footing the pretensions and functions of each individual tribe.

The book of Ezra, and also that of Nehemiah, are attributed by the ancients to the former of these prophets; and they called them the 1st and 2d books of Esdras; which title is still kept up by the Latin church. It is indeed highly probable that the former of these books, which comprises the history of the Jews from the time that Cyrus made the decree for their return until the twentieth year of Artaxerxes Longimanus (which was about 100 years, or as others think 79 years), was all composed by Ezra, except the first six chapters, which contain an account of the first return of the Jews upon the decree of Cyrus; whereas Ezra did not return till the time of Artaxerxes. It is of this second return therefore that he writes the account; and adding

Scripture. adding it to the other, which he found ready composed to his hand, he made it a complete history of the Jewish restoration.

This book is written in Chaldee from chap. iv. 8. to chap. vii. 27. As this part of the work chiefly contains letters, conversations, and decrees expressed in that language, the fidelity of the historian has probably induced him to take down the very words which were used. The people, too, had been accustomed to the Chaldee during the captivity, and probably understood it better than Hebrew; for it appears from Nehemiah's account, chap. viii. 2, 8. that all could not understand the law.

29
Of Nehemiah.

The book of Nehemiah, as has been already observed, bears, in the Latin bibles, the title of the *second book of Esdras*; the ancient canons likewise give it the same name, because, perhaps, it was considered as a sequel to the book of Ezra. In the Hebrew bibles it has the name of *Nehemiah* prefixed to it; which name is retained in the English bible. But though that chief is by the writer of the second book of Maccabees affirmed to have been the author of it, there cannot, we think, be a doubt but that either it was written at a later period, or had additions made to it after Nehemiah's death.

With the book of Nehemiah the history of the Old Testament concludes. This is supposed to have taken place about A. M. 3574. A. C. 434. But Prideaux with more probability has fixed it at A. M. 3595. See NEHEMIAH.

30
Of Esther.

It is uncertain who was the author of the book of Esther. Clement of Alexandria, and many commentators, have ascribed it to Mordecai; and the book itself seems to favour this opinion; for we are told in chap. ix. 20. that "Mordecai wrote these things." Others have supposed that Ezra was the author; but the more

probable opinion of the Talmudists is, that the great Synagogue (see SYNAGOGUE), to perpetuate the memory of the deliverance of the Jews from the conspiracy of Haman, and to account for the origin of the feast of Purim, ordered this book to be composed, very likely of materials left by Mordecai, and afterwards approved and admitted it into the sacred canon. The time when the events which it relates happened, is supposed by some to have been in the reign of Artaxerxes Longimanus, and by others in that of Darius the son of Hystaspes, called by the sacred penman *Abasuerus*.

Concerning the author of the book of Job there are Of Job. many different opinions. Some have supposed that Job himself wrote it in Syriac or Arabic, and that it was afterwards translated by Moses. Others have thought that *Elihu* wrote it; and by others it is ascribed to Moses, to Solomon, to Isaiah, and to Ezra. To give even an abridgment of the arguments brought in support of these various opinions would fill a volume, and at last leave the reader in his present uncertainty. He who has leisure and inclination to weigh them may study the second section of the sixth book of Warburton's Divine Legation of Moses, together with the several works there referred to; but the question at issue is of very little importance to us. The book of Job, by whomsoever it was written, and whether it be a real history, or a dramatical poem founded on history, has been always esteemed a portion of canonical scripture, and is one of the most sublime compositions in the sacred volume.

The book of Job appears to stand single and unparalleled in the sacred volume. It seems to have little connection with the other writings of the Hebrews, and no relation whatever to the affairs of the Israelites. The scene is laid in Idumæa (H); the history of an inhabitant of that country is the basis of the narrative; P 2 the

(H) "The information which the learned have endeavoured to collect from the writings and geography of the Greeks concerning the country and residence of Job and his friends, appears to me (says Dr Lowth) to very inconclusive, that I am inclined to take a quite different method for the solution of this question, by applying solely to the Sacred Writings: the hints with which they have furnished me towards the illustration of this subject, I shall explain as briefly as possible.

"The land of Uz, or Gutz, is evidently Idumæa, as appears from Lam. iv. 21. Uz was the grandson of Seir the Horite, Gen. xxxvi. 20, 21, 28. 1. Chron. i. 38, 42. Seir inhabited that mountainous tract which was called by his name antecedent to the time of Abraham; but his posterity being expelled, it was occupied by the Idumæans: Gen. xiv. 6. Deut. ii. 12. Two other men are mentioned of the name Uz; one the grandson of Shem, the other the son of Nachor, the brother of Abraham; but whether any district was called after their name is not clear. Idumæa is a part of Arabia Petræa, situated on the southern extremity of the tribe of Judah: Numb. xxxiv. 3. Josh. xv. 1, 21. The land of Uz therefore appears to have been between Egypt and Philistia, Jer. xxv. 20. where the order of the places seems to have been accurately observed in reviewing the different nations from Egypt to Babylon; and the same people seem again to be described in exactly the same situations, Jer. xlv. 1.

"Children of the East, or Eastern people, seems to have been the general appellation for that mingled race of people (as they are called, Jer. xxv. 20.) who inhabited between Egypt and the Euphrates, bordering upon Judea from the south to the east; the Idumæans, the Amalekites, the Midianites, the Moabites, the Ammonites. See Judges vi. 3. and Isa. xi. 14. Of these the Idumæans and Amalekites certainly possessed the southern parts. See Numb. xxxiv. 3, xiii. 29. 1. Sam. xxvii. 8, 10. This appears to be the true state of the case: The whole region between Egypt and Euphrates was called the East, at first in respect to Egypt (where the learned Jos. Mede thinks the Israelites acquired this mode of speaking. Mede's Works, p. 580.), and afterwards absolutely and without any relation to situation or circumstances. Abraham is said to have sent the sons of his concubines, Hagar and Keturah, "eastward, to the country which is commonly called the East." Gen. xxv. 6. where the name of the region seems to have been derived from the same situation. Solomon is reported "to have excelled in wisdom all the Eastern people, and all Egypt," 1 Kings iv. 30.; that is, all the neighbouring people on that quarter: for there

Scripture. the characters who speak are Idumæans, or at least Arabians of the adjacent country, all originally of the race of Abraham. The language is pure Hebrew, although the author appears to be an Idumæan; for it is not improbable that all the posterity of Abraham, Israelites, Idumæans, and Arabians, whether of the family of Keturah or Ishmael, spoke for a considerable length of time one common language. That the Idumæans, however, and the Temanites in particular, were eminent for the reputation of wisdom, appears by the testimony of the prophets Jeremiah and Obadiah ¶: Baruch also particularly mentions them among "the authors (or expounders) of fables, and searchers out of understanding §."

¶ Jer xlix.
7. Ob. 8.

§ Baruch
iii. 22. 23.

32
The character of
Job.

The principal personage in this poem is Job; and in his character is meant to be exhibited (as far as is consistent with human infirmity) an example of perfect virtue. This is intimated in the argument or introduction, but is still more eminently displayed by his

own actions and sentiments. He is holy, devout, and most piously and reverently impressed with the sacred awe of his divine Creator; he is also upright, and conscious of his own integrity; he is patient of evil, and yet very remote from that insensibility or rather stupidity to which the Stoic school pretended. Oppressed therefore with unparalleled misfortunes, he laments his misery, and even wishes a release by death; in other words, he obeys, and gives place to the dictates of nature. Irritated, however, by the unjust insinuations and the severe reproaches of his pretended friends, he is more vehemently exasperated, and the too great confidence in his own righteousness leads him to expostulate with God in terms scarcely consistent with piety and strict decorum.

It must be observed, that the first speech of Job, though it bursts forth with all the vehemence of passion, consists wholly of complaint, "the words and sentiments of a despairing person, empty as the wind *;" Job vi. 26, which

there were people beyond the boundaries of Egypt, and bordering on the south of Judea, who were famous for wisdom, namely, the Idumæans (see Jer. xlix. 7. Ob. 8.), to whom we may well believe this passage might have some relation. Thus Jehovah addresses the Babylonians; "Arise, ascend unto Kedar, and lay waste the children of the East," (Jer. xlix. 28). notwithstanding these were really situated to the west of Babylon. Although Job, therefore, be accounted one of the orientals, it by no means follows that his residence must be in Arabia Deserta.

"*Eliphaz the Temanite* was the son of Esau, and Teman the son of Eliphaz, (Gen. xxxvi. 10, 11.). The Eliphaz of Job was without a doubt of this race. Teman is certainly a city of Idumæa, (Jer. xlix. 7, 20. Ezek. xxv. 13. Amos i. 11, 12. Ob. 8, 9.).

"*Bildad the Shubite*: *Shubab* was one of the sons of Abraham by Keturah, whose posterity were numbered among the people of the East, and his situation was probably contiguous to that of his brother Midian, and of his nephews Shebah and Dedan, (see Gen. xxv. 2, and 3.) Dedan is a city of Idumæa (Jer. xlix. 8.), and seems to have been situated on the eastern side, as Teman was on the west, (Ezek. xxv. 13.). From Sheba originated the Sabæans in the passage from Arabia Felix to the Red Sea: Sheba is united to Midian (Ila. lx. 6.); it is in the same region however with Midian, and not far from Mount Horeb, (Exod. ii. 15. iii. 1.).

"*Zophar the Naamathite*: among the cities which by lot fell to the tribe of Judah, in the neighbourhood of Idumæa, Naama is enumerated, (Josh. xv. 21, 41.) Nor does this name elsewhere occur; this probably was the country of Zophar.

"*Elibu the Buzite*: Buz occurs but once as the name of a place or country (Jer. xxv. 23.), where it is mentioned along with Dedan and Thema: Dedan, as was just now demonstrated, is a city of Idumæa; Thema belonged to the children of Ishmael, who are said to have inhabited from Havilah, even to Shur, which is in the district of Egypt, (Gen. xxv. 15. 18.) Saul, however, is said to have smitten the Amalekites from Havilah even to Shur, which is in the district of Egypt, (1 Sam. xv. 7.) Havilah cannot, therefore, be very far from the boundaries of the Amalekites; but the Amalekites never exceeded the boundaries of Arabia Petræa. (See Reland Palæstin. lib. i. c. xiv.) Thema, therefore, lay somewhere between Havilah and the desert of Shur, to the southward of Judea. Thema is also mentioned in connection with Sheba, (Job vi. 19.)

"Upon a fair review of these facts, I think we may venture to conclude, still with that modesty which such a question demands, that Job was an inhabitant of Arabia Petræa, as well as his friends, or at least of that neighbourhood. To this solution one objection may be raised: it may be asked, How the Chaldeans, who lived on the borders of the Euphrates, could make depredations on the camels of Job, who lived in Idumæa at so great a distance? This too is thought a sufficient cause for assigning Job a situation in Arabia Deserta, and not far from the Euphrates. But what should prevent the Chaldeans, as well as the Sabæans, a people addicted to rapine, and roving about at immense distances for the sake of plunder, from wandering through these defenceless regions, which were divided into tribes and families rather than into nations, and pervading from Euphrates even to Egypt? Further, I would ask on the other hand, whether it be probable that all the friends of Job who lived in Idumæa and its neighbourhood, should instantly be informed of all that could happen to Job in the desert of Arabia and on the confines of Chaldea, and immediately repair thither? Or whether it be reasonable to think, that, some of them being inhabitants of Arabia Deserta, it should be concerted among them to meet at the residence of Job; since it is evident, that Eliphaz lived at Thema, in the extreme parts of Idumæa? With respect to the *Astias* of Ptolemy (for so it is written, and not *Ausitas*) it has no agreement, not so much as in a single letter with the Hebrew *Gutz*. The LXX indeed call that country by the name *Ausitida*, but they describe it as situated in Idumæa; and they account Job himself an Idumæan, and a descendant of Esau." See the Appendix of the LXX to the book of Job, and Hyde Not. in Peritzol. chap. xi. *Lowth on Hebrew Poetry.*

Scripture which is indeed the apology that he immediately makes for his conduct; intimating, that he is far from presuming to plead with God, far from daring to call in question the divine decrees, or even to mention his own innocence in the presence of his all-just Creator: nor is there any good reason for the censure which has been passed by some commentators upon this passage. The poet seems, with great judgment and ingenuity, to have performed in this what the nature of his work required. He has depicted the affliction and anguish of Job, as flowing from his wounded heart in a manner so agreeable to human nature (and certainly so far venial), that it may be truly said, "in all this Job sinned not with his lips." It is, nevertheless, embellished by such affecting imagery, and inspired with such a warmth and force of sentiment, that we find it afforded ample scope for calumny; nor did the unkind witnesses of his sufferings permit so fair an opportunity to escape. The occasion is eagerly embraced by Eliphaz to rebuke the impatience of Job; and, not satisfied with this, he proceeds to accuse him in direct terms of wanting fortitude, and obliquely to insinuate something of a deeper dye. Though deeply hurt with the coarse reproaches of Eliphaz, still, however, when Job afterwards complains of the severity of God, he cautiously refrains from violent expostulations with his Creator, and, contented with the simple expression of affliction, he humbly confesses himself a sinner ¶. Hence it is evident, that those vehement and perverse attestations of his innocence, those murmurs against the divine Providence, which his tottering virtue afterwards permits, are to be considered merely as the consequences of momentary passion, and not as the ordinary effects of his settled character or manners. They prove him at the very worst not an irreligious man, but a man possessed of integrity, and too confident of it; a man oppressed with almost every imaginable evil, both corporal and mental, and hurried beyond the limits of virtue by the strong influence of pain and affliction. When, on the contrary, his importunate visitors abandon by silence the cause which they had so wantonly and so maliciously maintained, and cease unjustly to load him with unmerited criminations; though he defends his argument with scarcely less obstinacy, yet the vehemence of his grief appears gradually to subside; he returns to himself, and explains his sentiments with more candour and sedateness: and however we may blame him for assuming rather too much of arrogance in his appeals to the Almighty, certainly his defence against the accusations of Eliphaz is no more than the occasion will strictly justify. Observe, in the first place, how admirably the confidence and perseverance of Job is displayed in replying to the slander of his false friends:

33
His confidence and perseverance.

As God liveth, who hath removed my judgment;
Nay, as the Almighty liveth, who hath embittered my soul;

Verily as long as I have life in me,
And the breath of God is in my nostrils;
My lips shall not speak perversity,
Neither shall my tongue whisper prevarication.
God forbid that I should declare you righteous!
Till I expire I will not remove my integrity from me.
I have fortified myself in my righteousness,
And I will not give up my station:
My heart shall not upbraid me as long as I live.

May mine enemy be as the impious man,
And he that riseth up against me as the wicked ¶.

But how magnificent, how noble, how inviting and beautiful is that image of virtue in which he delineates his past life! What dignity and authority does he seem to possess!

If I came out to the gate, nigh the place of public resort,

If I took up my seat in the street;
The young men saw me, and they hid themselves;
Nay, the very old men rose up and stood.

The princes refrained talking,
Nay, they laid their hands on their mouths.

The nobles held their peace,
And their tongue cleaved to the roof of their mouth ¶. ¶ Chap.

What liberality! what a promptitude in beneficence!

Because the ear heard, therefore it blessed me;
The eye also saw, therefore it bare testimony for me.
That I delivered the poor who cried,
The orphan also, and him who had no helper.
The blessing of him who was ready to perish came upon me,

And I caused the heart of the widow to sing for joy ¶. ¶ Chap.

What sanctity, what integrity in a judicial capacity! 13.

I put on righteousness, and it clothed me like a robe;
My justice also was a diadem.

I was a father to the poor,
And the controversy which I knew not, I searched it out.

Then brake I the grinders of the oppressor,
And I plucked the prey out of his teeth ¶.

But what can be more engaging than the purity of his devotion, and his reverence for the Supreme Being, founded upon the best and most philosophical principles? Besides that through the whole there runs a strain of the most amiable tenderness and humanity:

For what is the portion which God distributeth from above,

And the inheritance of the Almighty from on high?
Is it not destruction to the wicked,
And banishment from their country to the doers of iniquity?

Doth he not see my ways?

And numbereth he not all my steps?

If I should despise the cause of my servant,

Or my maid, when they had a controversy with me,

What then should I do when God ariseth,

And when he visiteth, what answer could I make him?

Did not he who formed me in the belly form him,

And did not one fashion us in the womb ¶?

The three friends are exactly such characters as the nature of the poem required. They are severe, irritable, malignant censors, readily and with apparent satisfaction deviating from the purpose of consolation into reproof and contumely. Even from the very first they manifest this evil propensity, and indicate what is to be expected from them. The first of them, indeed, in the opening of his harangue, assumes an air of candour:

Wouldst thou take it unkindly that one should essay to speak to thee ¶?

Indignation

Scripture,
¶ Chap.
xxvii. 2—7.

¶ Chap.
xxix. 1—10.

¶ Chap.
xxix. 11—13.

¶ Chap.
xxix. 14—16, 17.

¶ Chap.

xxxi. 2—4.

34
Characters of his three friends.

¶ Chap.
iv. 2.

Scripture. Indignation is, however, instantly predominant:

But a few words who can forbear?

The second flames forth at once:

How long wilt thou trifle in this manner?

How long shall the words of thy mouth be as a mighty wind ||?

Chap.
viii. 2.

But remark the third:

Shall not the master of words be answered?

Or shall a man be acquitted for his fine speeches?

Shall thy prevarications make men silent?

Shalt thou even scoff, and there be no one to make thee ashamed *?

Chap.
xi. 2, 3.

35
Of Elihu.

The lenity and moderation of Elihu serves as a beautiful contrast to the intemperance and asperity of the other three. He is pious, mild, and equitable; equally free from adulation and severity; and endued with singular wisdom, which he attributes entirely to the inspiration of God: and his modesty, moderation, and wisdom, are the more entitled to commendation when we consider his unripe youth. As the characters of his detractors were in all respects calculated to inflame the mind of Job, that of this arbitrator is admirably adapted to sooth and compose it: to this point the whole dritt of the argument tends, and on this the very purport of it seems to depend.

Another circumstance deserving particular attention in a poem of this kind, is the sentiment; which must be agreeable to the subject, and embellished with proper expression. It is by Aristotle enumerated among the essentials of a dramatic poem; not indeed as peculiar to that species of poetry alone, but as common, and of the greatest importance, to all. Manners or character are essential only to that poetry in which living persons are introduced; and all such poems must afford an exact representation of human manners: but sentiment is essential to every poem, indeed to every composition whatever. It respects both persons and things. As far as it regards persons, it is particularly concerned in the delineation of the manners and passions: and those instances to which we have just been adverting are sentiments expressive of manners. Those which relate to the delineation of the passions, and to the description of other objects, yet remain unnoticed.

36
Sentiments
of the
poem of
Job.

The poem of Job abounds chiefly in the more vehement passions, grief and anger, indignation and violent contention. It is adapted in every respect to the incitement of terror; and, as the specimens already quoted will sufficiently prove, is universally animated with the true spirit of sublimity. It is however not wanting in the gentler affections. The following complaints, for instance, are replete with an affecting spirit of melancholy:

Man, the offspring of a woman,
Is of few days, and full of inquietude;
He springeth up, and is cut off like a flower;
He flieth like a shadow, and doth not abide:
Upon such a creature dost thou open thine eyes?

And wilt thou bring even me into judgment with thee?
Turn thy look from him, that he may have some respite,

1 Chap.
xiv. 1, 2,
3, 6.

Till he shall, like a hireling, have completed his day ||.

The whole passage abounds with the most beautiful imagery, and is a most perfect specimen of the Elegiac. His grief afterwards becomes more fervent; but is at the same time soft and querimonious.

How long will ye vex my soul,
And tire me with vain harangues?
These ten times have ye loaded me with reproaches,
Are ye not ashamed that ye are so obstinate against me?
Pity me, O pity me, ye are my friends,
For the hand of God hath smitten me.
Why will you be my persecutors as well as God,
And therefore will ye not be satisfied with my flesh ¶?

Chap.
xix. 2, 3.

The ardour and alacrity of the war-horse, and his eagerness for battle, is painted with a masterly hand:

37
Its subli-
mity.

For eagerness and fury he devourereth the very ground:
He believeth it not when he heareth the trumpet.
When the trumpet soundeth, he saith, ahah!
Yea he scenteth the battle from afar,
The thunder of the chieftains and their shouts ¶.

1 Chap.

The following sublime description of the creation is admirable:

xxxix. 14
25.

Where wast thou when I laid the foundations of the earth?

If thou knowest, declare.

Say, who fixed the proportions of it, for surely thou knowest?

Or who stretched out the line upon it?

Upon what were its foundations fixed?

Or who laid the corner-stone thereof?

When the morning-stars sung together,

And all the sons of God shouted for joy;

When the sea was shut up with doors;

When it burst forth as an infant that cometh out of the womb;

When I placed the cloud for its robe,

And thick darkness for its swadling-band;

When I fixed my boundary against it,

When I placed a bar and gates;

When I said, Thus far shalt thou come, and not advance,

And here shall a stop be put to the pride of thy waves †.

Job xxxix.
4-11.

Let it suffice to say, that the dignity of the style is answerable to that of the subject; its force and energy, to the greatness of those passions which it describes: and as this production excels all the other remains of the Hebrew poetry in economy and arrangement, so it yields to none in sublimity of style and in every grace and excellence of composition. Among the principal of these may be accounted the accurate and perfectly poetical conformation of the sentences, which is indeed generally most observable in the most ancient of the poetical compositions of the Hebrews. Here, however, as is natural and proper in a poem of so great length and sublimity, the writer's skill is displayed in the proper adjustment of the period, and in the accurate distribution of the members, rather than in the antithesis of words, or in any laboured adaptation of the parallelisms.

The word *Psalms* is a Greek term, and signifies *Songs*. The Hebrews call it *Seper Tebellim*, that is, "the Book of Praises;" and in the Gospel it is styled the Book of *Psalms*. Great veneration has always been paid to this collection

38
The book
of psalms
תהלים

Scripture collection of divine songs. The Christian church has from the beginning made them a principal part of her holy services; and in the primitive times it was almost a general rule that every bishop, priest, and religious person, should have the psalter by heart.

Many learned fathers, and not a few of the moderns, have maintained that *David* was the author of them all. Several are of a different opinion, and insist that David wrote only 72 of them; and that those without titles are to be ascribed to the authors of the preceding psalms, whose names are affixed to them. Those who suppose that David alone was the author, contend, that in the New Testament, and in the language of the church universal, they are expressly called the *Psalms of David*. That David was the principal author of these hymns is universally acknowledged, and therefore the whole collection may properly enough go under his name; but that he wrote them all, is a palpable mistake. Nothing certain can be gathered from the titles of the psalms; for although unquestionably very ancient, yet authors are not agreed as to their authority, and they differ as much about their signification. The Hebrew doctors generally agree that the 92d psalm was composed by Adam; an opinion which for many reasons we are not inclined to adopt. There seems, however, to be no doubt but that some of them were written by Moses; that Solomon was the author of the 49th; and that others were occasioned by events long posterior to the flourishing era of the kingdom of Judah. The 137th particularly is one of those which mentions the captivity of Babylon.

39
Written
different
authors,

The following arrangement of the Psalms, after a careful and judicious examination, has been adopted by Calmet.

1. Eight Psalms of which the date is uncertain, *viz.* 1, 4, 19, 81, 91, 110, 139, 145. The first of these was composed by David or Ezra, and was sung in the temple at the feast of trumpets held in the beginning of the year and at the feast of tabernacles. The 81st is attributed to Asaph, and 110th to David. The authors of the rest are unknown.

2. The Psalms composed by David during the persecution of Saul. These are seventeen, 11, 31, 34, 56, 16, 54, 52, 109, 17, 22, 35, 57, 58, 142, 140, 141, 7.

3. The Psalms composed by David at the beginning of his reign, and after the death of Saul. These are sixteen, 2, 9, 24, 63, 101, 29, 20, 21, 28, 39, 40, 41, 6, 51, 32, 33.

4. The Psalms written by David during the rebellion of Absalom are eight in number; 3, 4, 55, 62, 70, 71, 143, 144.

5. The Psalms written between the death of Absalom and the captivity, which are ten, 18, 30, 72, 45, 78, 82, 83, 76, 74, 79: of these David wrote only three; 18, 30, and 72.

6. The Psalms composed during the captivity, which amount to forty. These were chiefly composed by the descendants of Asaph and Korah: they are, 10, 12, 13, 14, 53, 15, 25, 26, 27, 28, 36, 37, 42, 43, 44, 49,

50, 60, 64, 69, 73, 75, 77, 80, 84, 86, 88, 89, 90, 92, 93, 94, 95, 99, 120, 121, 123, 130, 131, 132. *Scripture.*

Lastly, Those hymns of joy and thanksgiving, written upon the release from the Babylonish captivity, and at the building and dedication of the temple. These are, 122, 61, 63, 124, 23, 87, 85, 46, 47, 48, from 96 to 117 inclusive, 126, 133 to 137 inclusive, 149, 150, 146, 147, 148, 59, 65, 66, 67, 118, 125, 127, 128, 129, 138.—According to this distribution, only 45 are positively assigned to David.

Josephus, and most of the ancient writers, assert, that the Psalms were composed in numbers: little, however, respecting the nature and principles of the Hebrew versification is known.

There existed a certain kind of poetry among the Hebrews, principally intended, it should seem, for the assistance of the memory; in which, when there was little connection between the sentiments, a sort of order or method was preserved, by the initial letters of each line or stanza following the order of the alphabet. Of this there are several examples extant among the sacred poems (1); and in these examples the verses are so exactly marked and defined, that it is impossible to mistake them for prose; and particularly if we attentively consider the verses, and compare them with one another, since they are in general so regularly accommodated, that word answers to word, and almost syllable to syllable. This being the case, though an appeal can scarcely be made to the ear on this occasion, the eye itself will distinguish the poetic division and arrangement, and also that some labour and accuracy has been employed in adapting the words to the measure.

40

Observa-
tions on the
Hebrew
poetry.

The Hebrew poetry has likewise another property altogether peculiar to metrical composition. It admits foreign words and certain particles, which seldom occur in prose composition, and thus forms a distinct poetical dialect. One or two of the peculiarities also of the Hebrew versification it may be proper to remark, which as they are very observable in those poems in which the verses are defined by the initial letters, may at least be reasonably conjectured of the rest. The first of these is, that the verses are very unequal in length; the shortest consisting of six or seven syllables; the longest extending to about twice that number: the same poem is, however, generally continued throughout in verses not very unequal to each other. It must also be observed, that the close of the verse generally falls where the members of the sentences are divided.

But although nothing certain can be defined concerning the metre of the particular verses, there is yet another artifice of poetry to be remarked of them when in a collective state, when several of them are taken together. In the Hebrew poetry, as is before remarked, there may be observed a certain conformation of the sentences; the nature of which is, that a complete sense is almost equally infused into every component part, and that every member constitutes an entire verse. So that as the poems divide themselves in a manner spontaneously into periods, for the most part equal; so the periods themselves are divided into verses, most commonly

(1) Psalms xxv. xxxiv. xxxvii. cxi. cxii. cxix. cxlv. Prov. xxxi. from the 10th verse to the end. The whole of the Lamentations of Jeremiah except the last chapter.

Scripture, by *complets*, though frequently of greater length. This is chiefly observable in those passages which frequently occur in the Hebrew poetry, in which they treat one subject in many different ways, and dwell upon the same sentiment; when they express the same thing in different words, or different things in a similar form of words; when equals refer to equals, and opposites to opposites: and since this artifice of composition seldom fails to produce even in prose an agreeable and measured cadence—we can scarcely doubt that it must have imparted to their poetry, were we masters of the versification, an exquisite degree of beauty and grace.

47
Peculiarities of it.

The elegant and ingenious Dr Lowth has with great acuteness examined the peculiarities of Hebrew poetry, and has arranged them under general divisions. The correspondence of one verse or line with another he calls *parallelism*. When a proposition is delivered, and a second is subjoined to it, equivalent or contrasted with it in sense, or similar to it in the form of grammatical construction, these he calls *parallel lines*; and the words or phrases answering one to another in the corresponding lines, *parallel terms*. Parallel lines he reduces to three sorts; parallels synonymous, parallels antithetic, and parallels synthetic. Of each of these we shall present a few examples.

First, of parallel lines synonymous, which correspond one to another by expressing the same sense in different but equivalent terms.

O-Jehovah, in-thy-strength the-king shall-rejoice;
And-in-thy-salvation how greatly shall-he-exult!
'The-desire of-his-heart thou-hast-granted unto-him;
And-the-request of-his-lips thou-hast-not denied.

Pf. xxi. 1. 2.

Because I-called, and-ye-refused;
I-stretched-out my-hand, and-no-one regarded;
But-ye-have-defeated all my-counsel;
And-would-not incline to-my-reproof:
I also will-laugh at-your-calamity;
I-will-mock, when-what-you-feared cometh;
When-what-you-feared cometh like-a-devastation;
And-your-calamity advanceth like-a-tempest;
When distress and-anguish come upon-you:
'Then shall they-call-upon-me, but-I-will-not answer;
'They-shall-see-me-early, but-they-shall-not find-me:
Because they-hated knowledge;
And-did-not choose the-fear of-Jehovah;
Did-not incline to-my-counsel;
Contemptuously-rejected all my-reproof;
'Therefore-shall-they-eat of-the-fruit of-their-ways;
And-shall be-satiated with-their-own-devices.
For the-defection of-the-simple shall-slay-them;
And-the-security of-fools shall-destroy them.

Prov. i. 24—32.

Seek-ye Jehovah, while-he-may-be-found;
Call-ye-upon-him, while-he-is near;
Let-the-wicked forsake his-way;
And-the-unrighteous man his-thoughts;
And-let-him-return to Jehovah, and-he-will-compassionate him;
And unto our-God, for he-aboundeth in-forgiveness (κ).

Isaiah lv. 6. 7.

'These synonymous parallels sometimes consist of two,

of three, or more synonymous terms. Sometimes they are formed by a repetition of part of the first sentence:—

As,
What shall I do unto thee, O Ephraim!
What shall I do unto thee, O Judah!
For your goodness is as the morning cloud,
And as the early dew it passeth away.

Hosea vi. 4.

The following is a beautiful instance of a parallel triplet, when three lines correspond and form a kind of stanza, of which two only are synonymous.

That day, let it become darkness;
Let not God from above inquire after it;
Nor let the flowing light radiate upon it.
That night, let utter darkness seize it;
Let it not be united with the days of the year;
Let it not come into the number of the months.
Let the stars of its twilight be darkened;
Let it look for light, and may there be none;
And let it not behold the eyelids of the morning.

Job iii. 4, 6, 9.

The second sort of parallels are the antithetic, when two lines correspond with one another by an opposition of terms and sentiments; when the second is contrasted with the first, sometimes in expressions, sometimes in sense only. Accordingly the degrees of antithesis are various: from an exact contraposition of word to word through the whole sentence, down to a general disparity, with something of a contrariety, in the two propositions. Thus in the following examples:

A wise son rejoiceth his father;
But a foolish son is the grief of his mother.

Prov. x. 1.

Where every word hath its opposite: for the terms *father* and *mother* are, as the logicians say, relatively opposite.

'The memory of the just is a blessing;
But the name of the wicked shall rot.

Prov. x. 7.

Here there are only two antithetic terms: for *memory* and *name* are synonymous.

There is that scattereth, and still increaseth;
And that is unreasonably sparing, yet groweth poor.

Prov. xi. 24.

Here there is a kind of double antithesis; one between the two lines themselves; and likewise a subordinate opposition between the two parts of each.

'These in chariots, and those in horses;
But we in the name of Jehovah our God will be strong.
'They are bowed down, and fallen;
But we are risen, and maintain ourselves firm.

Pf. xx. 7, 8.

For his wrath is but for a moment, his favour for life;
Sorrow may lodge for the evening, but in the morning gladness.

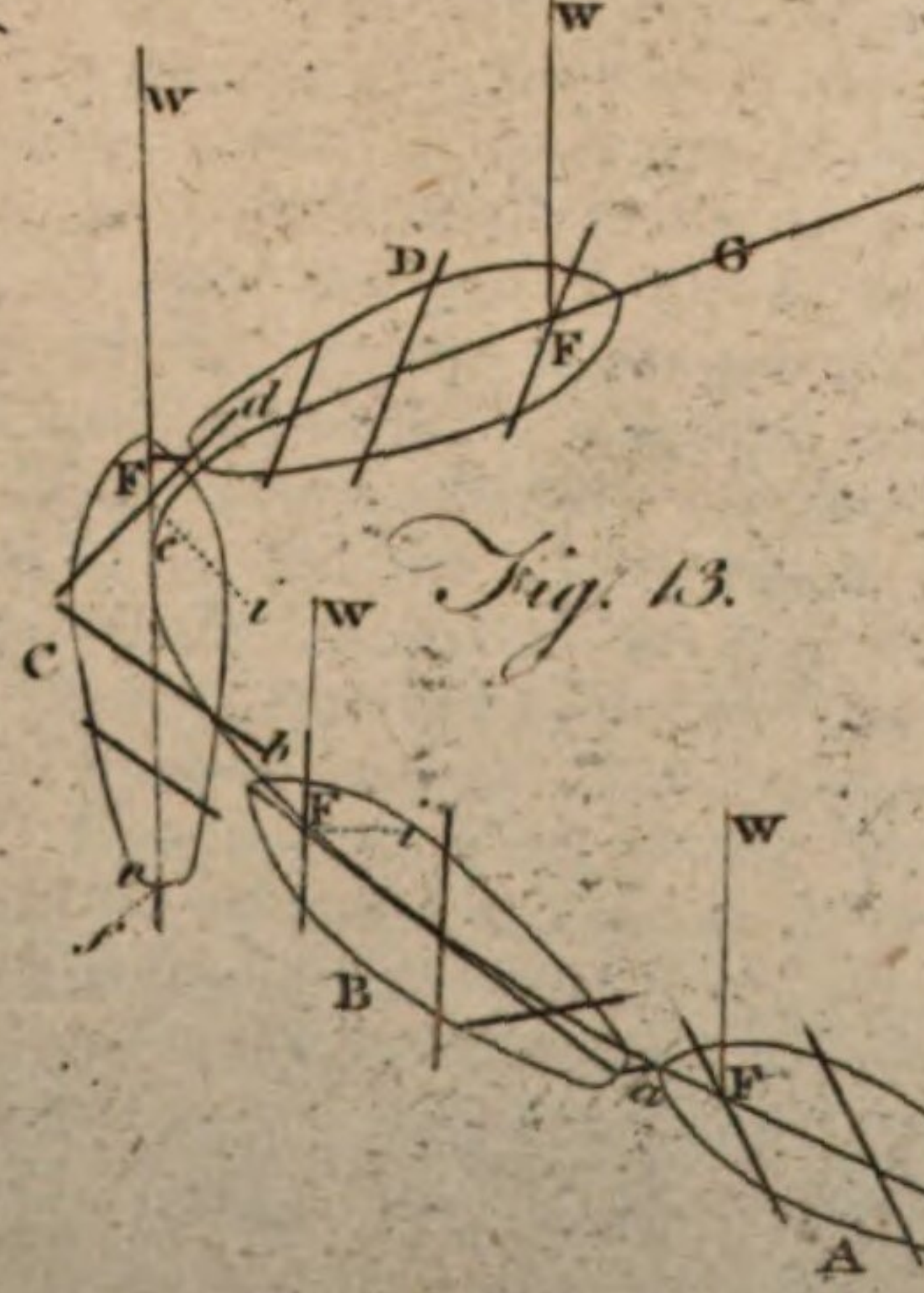
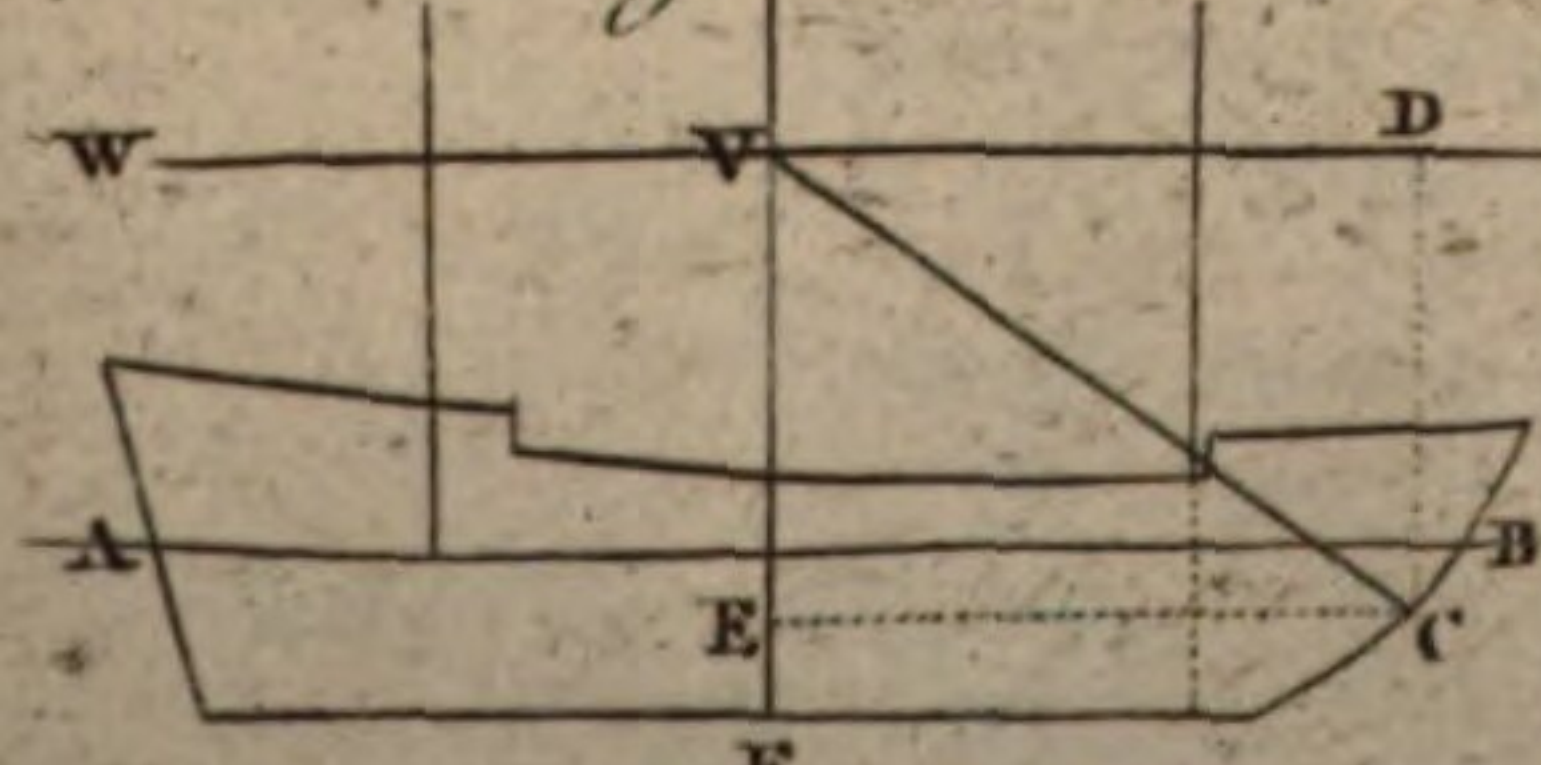
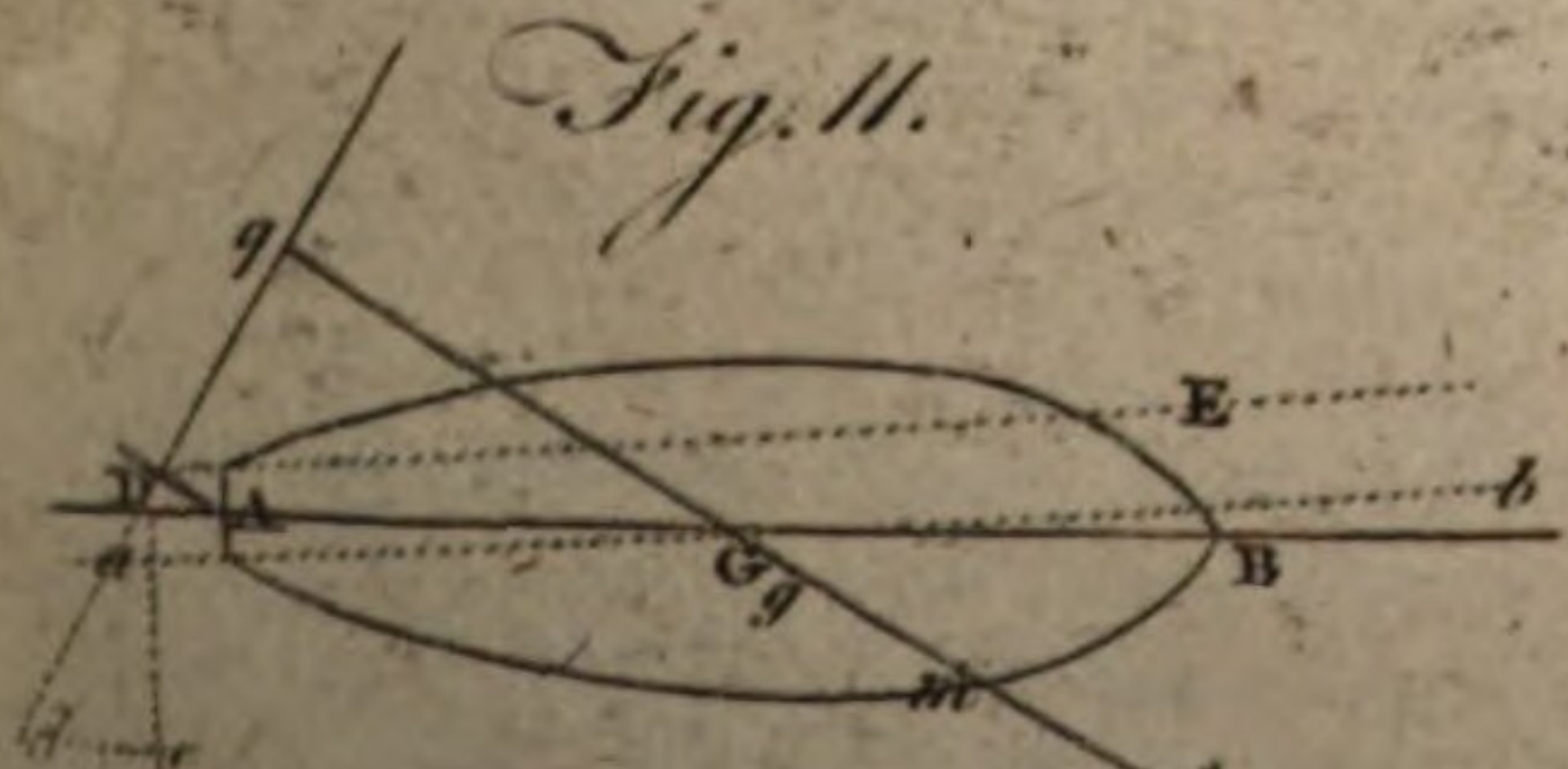
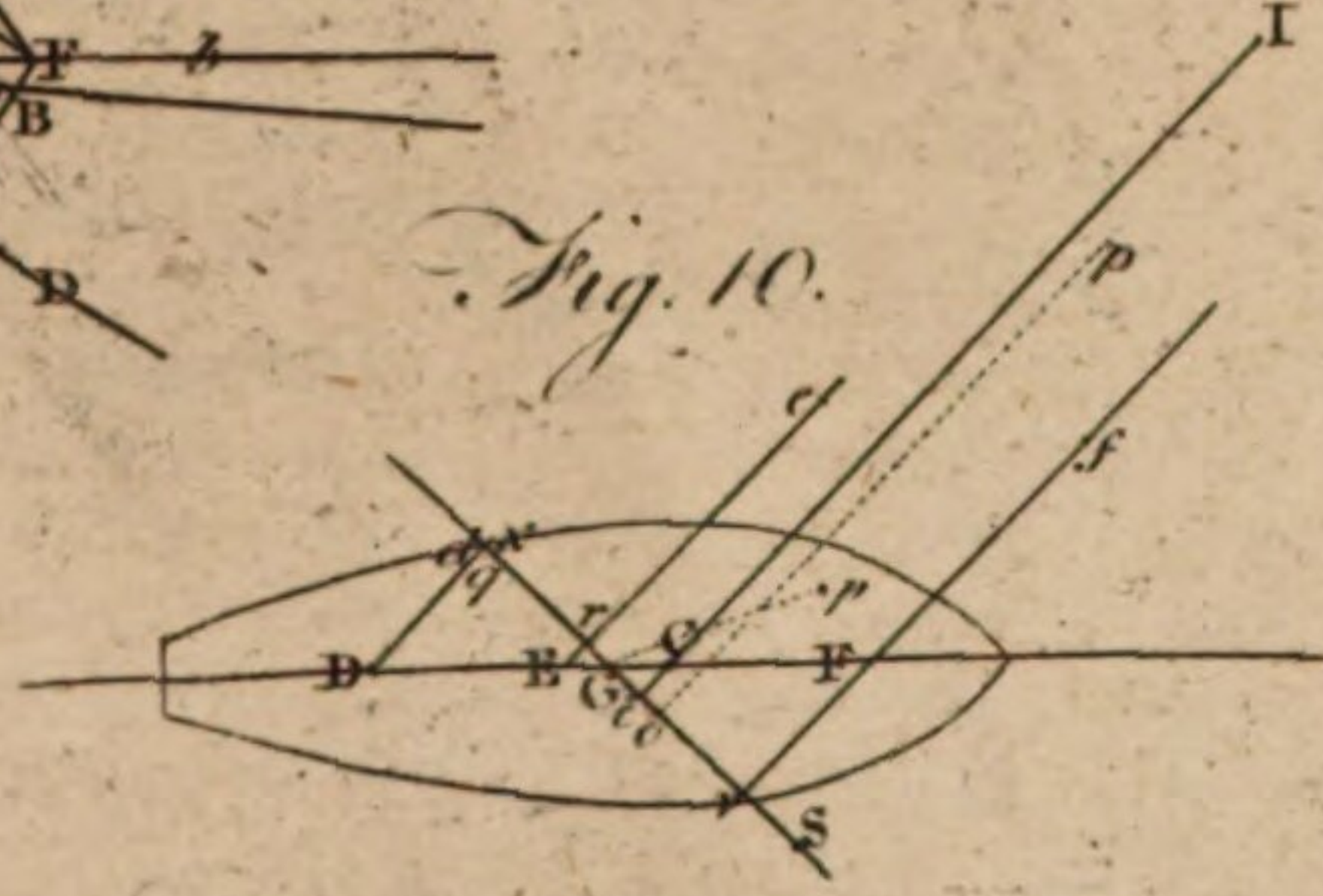
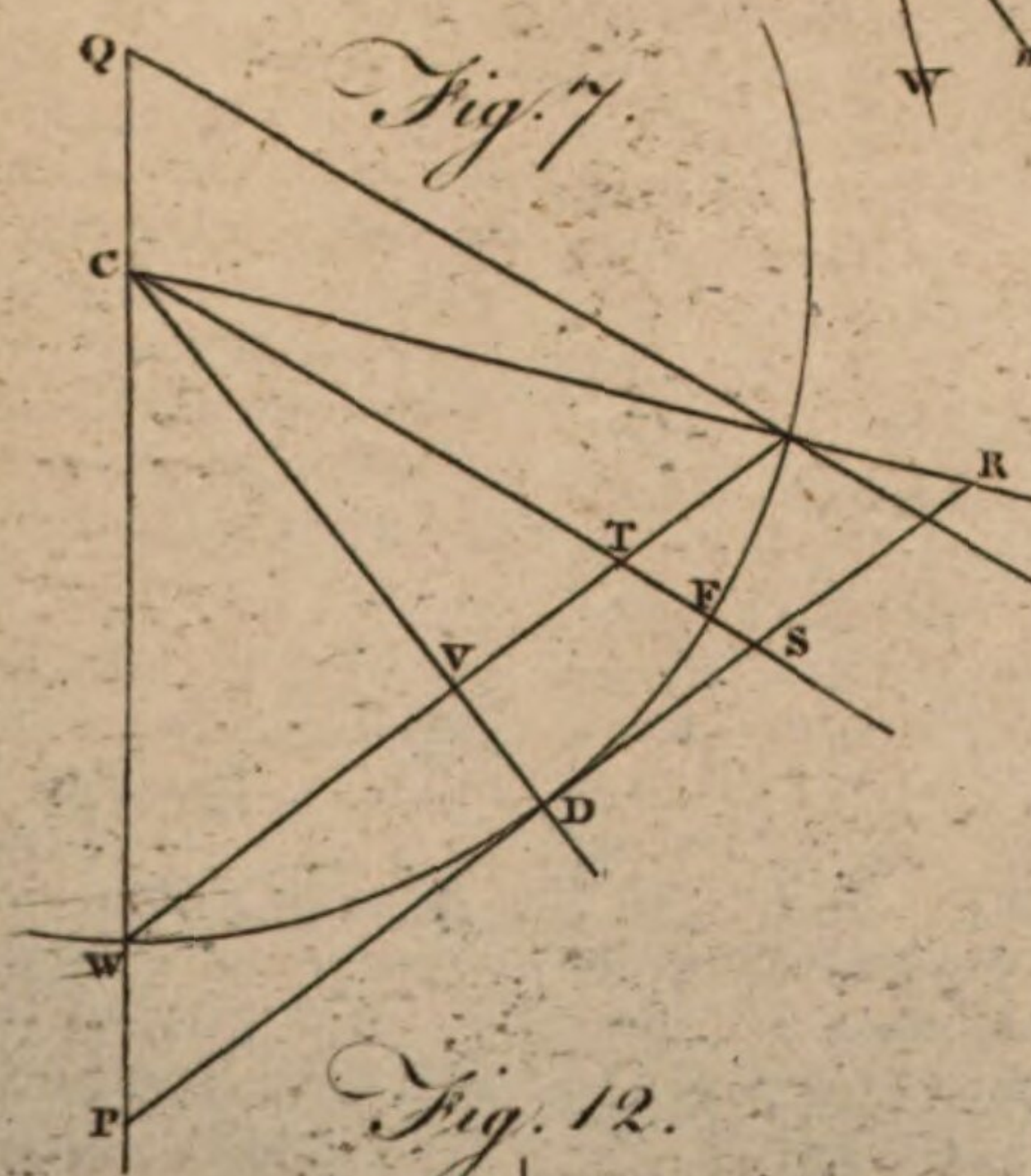
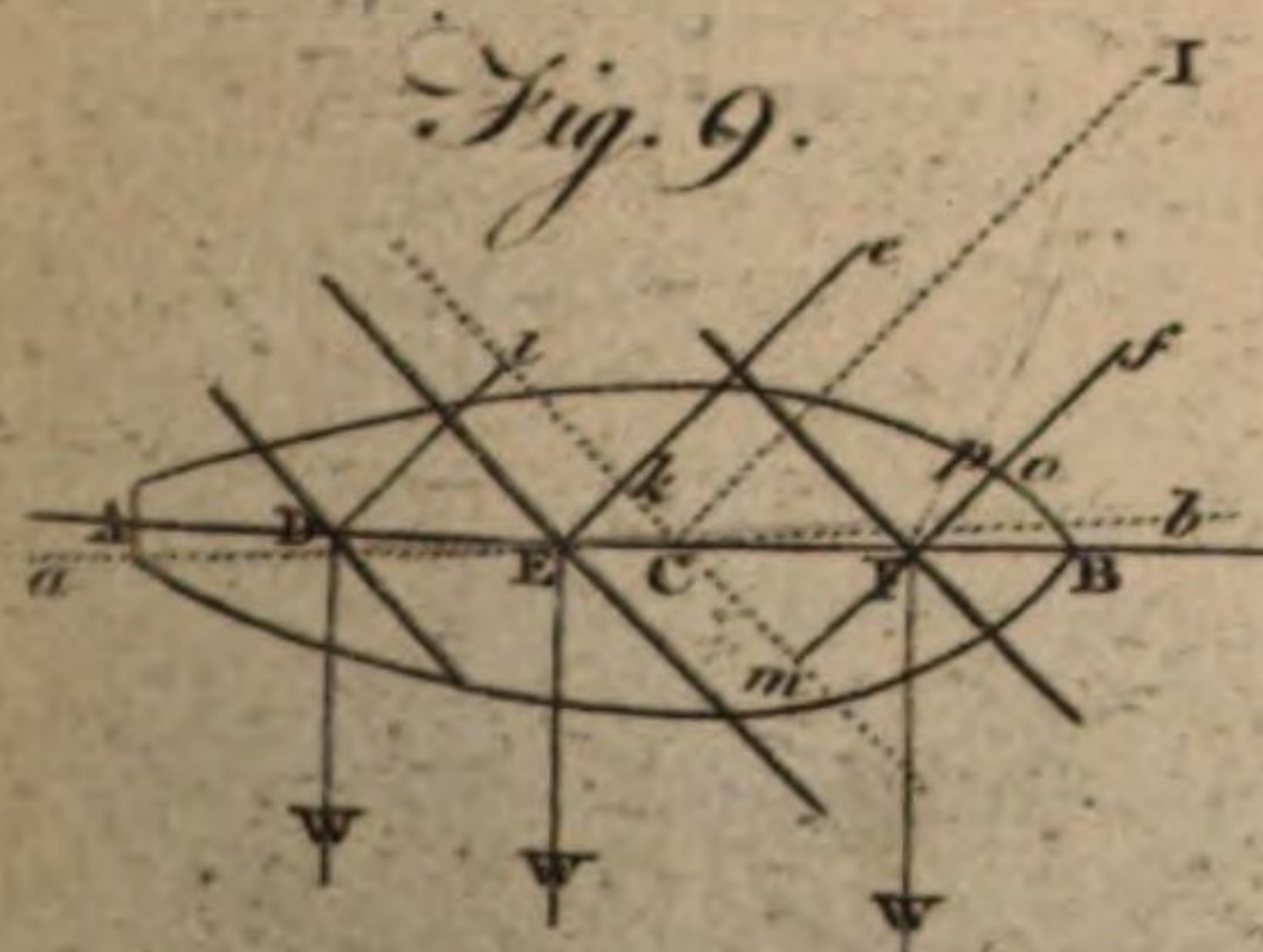
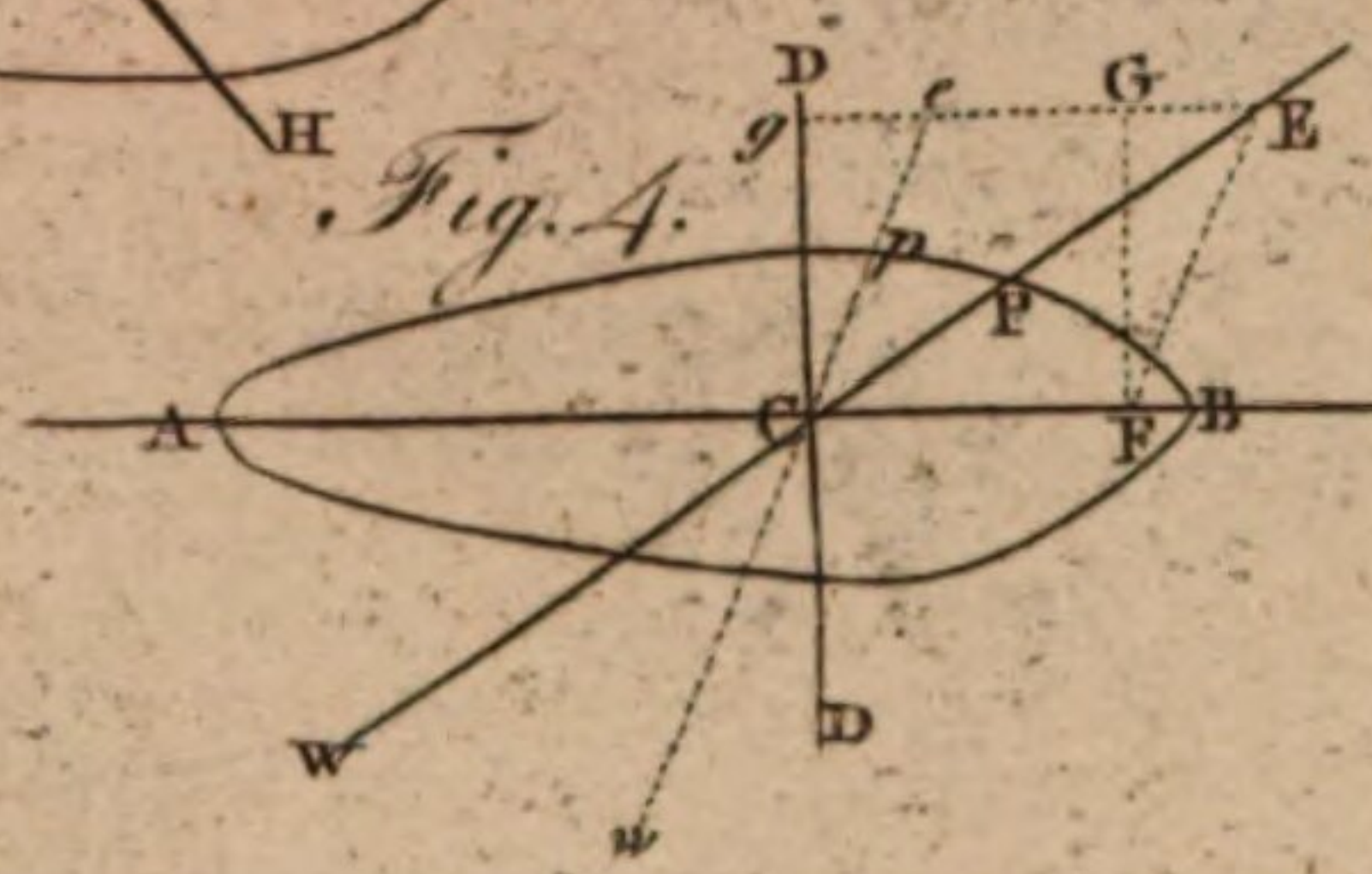
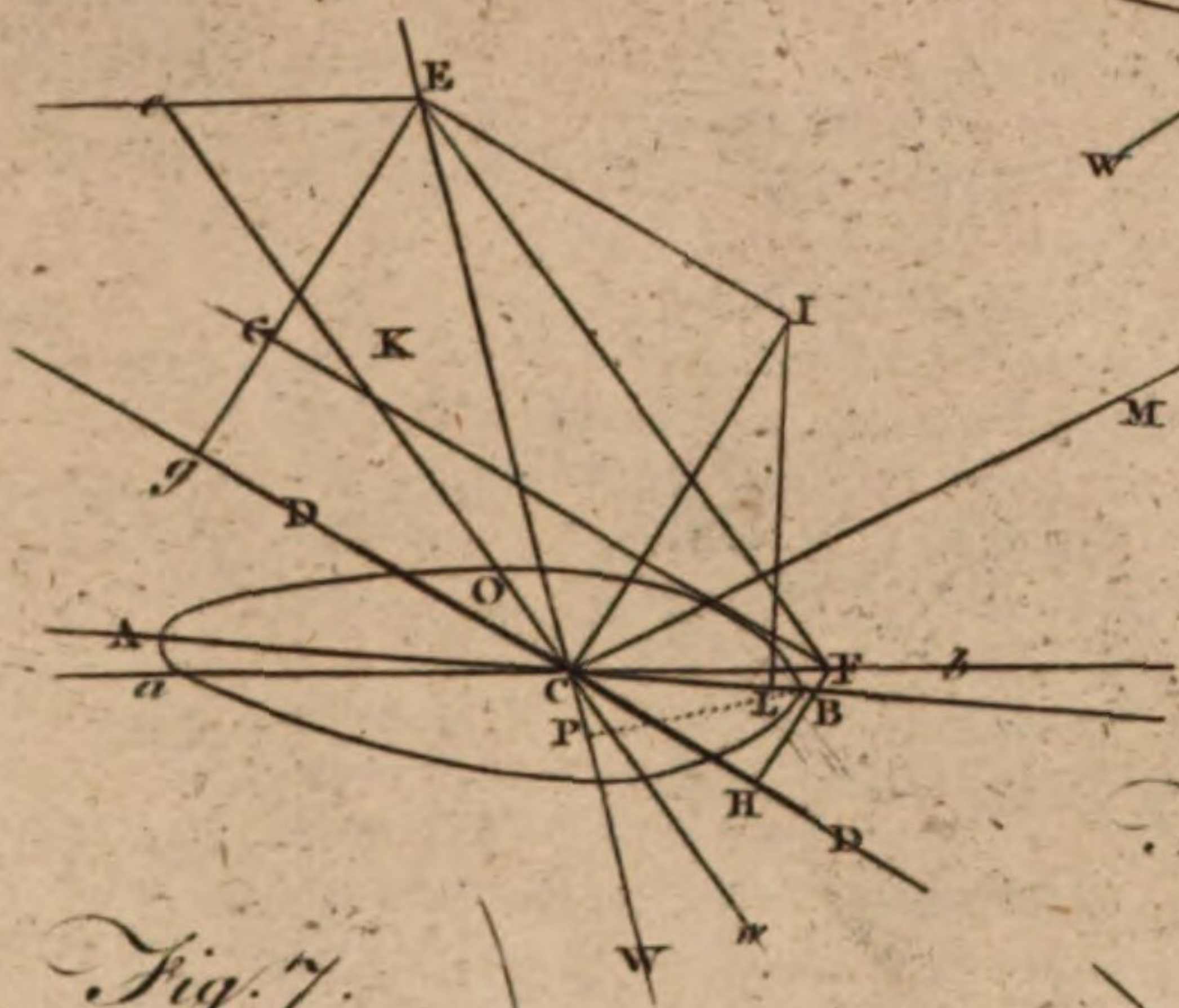
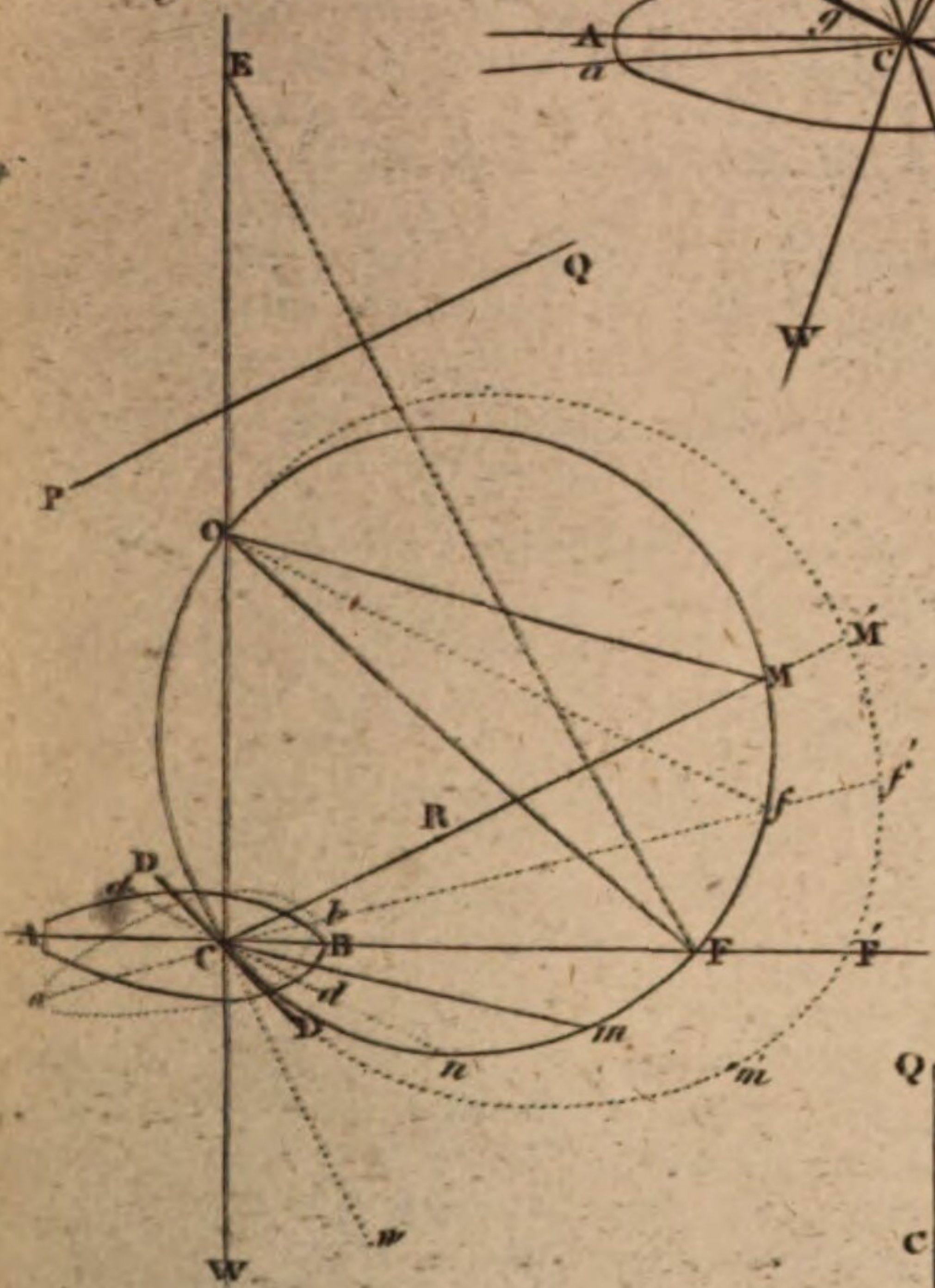
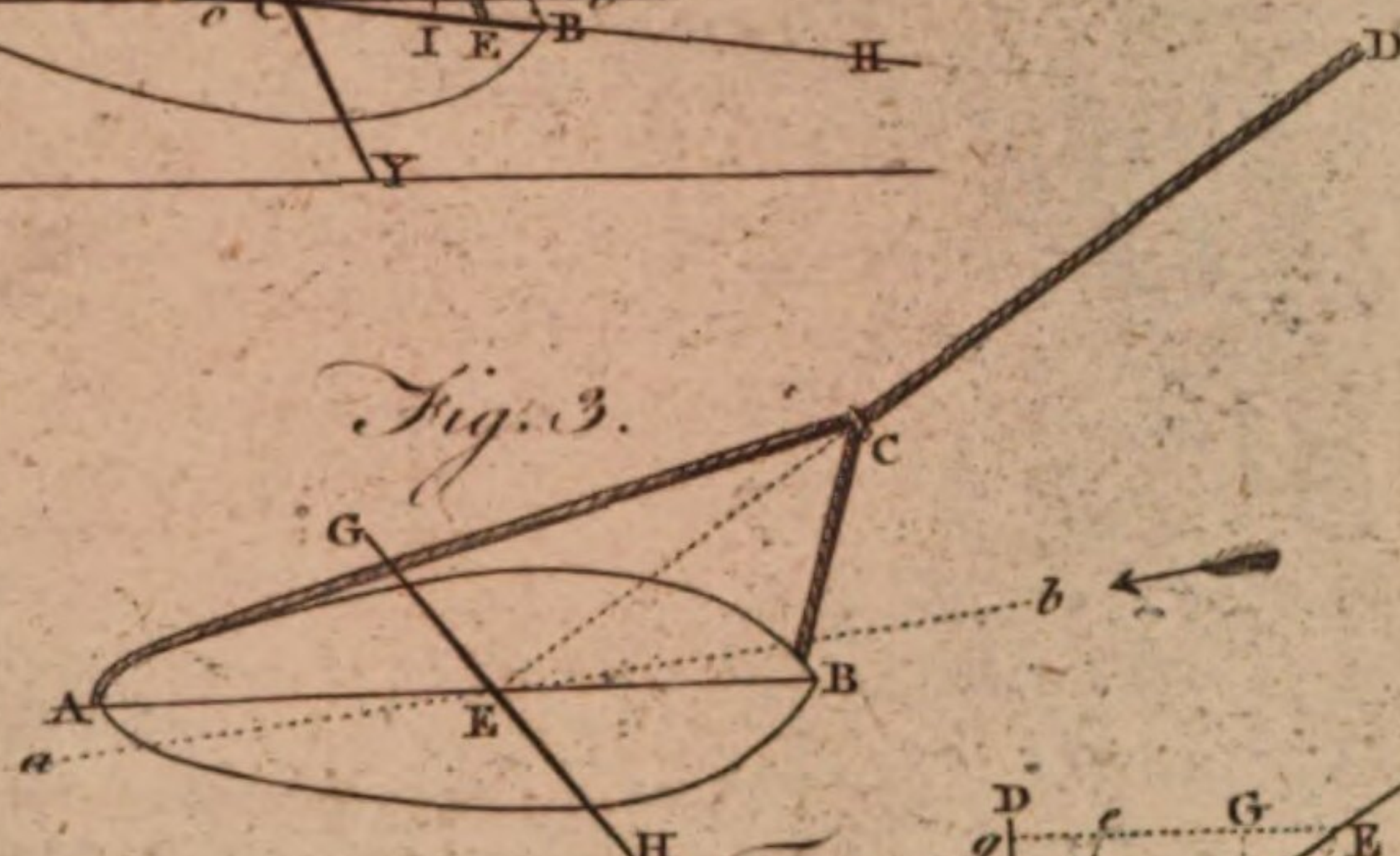
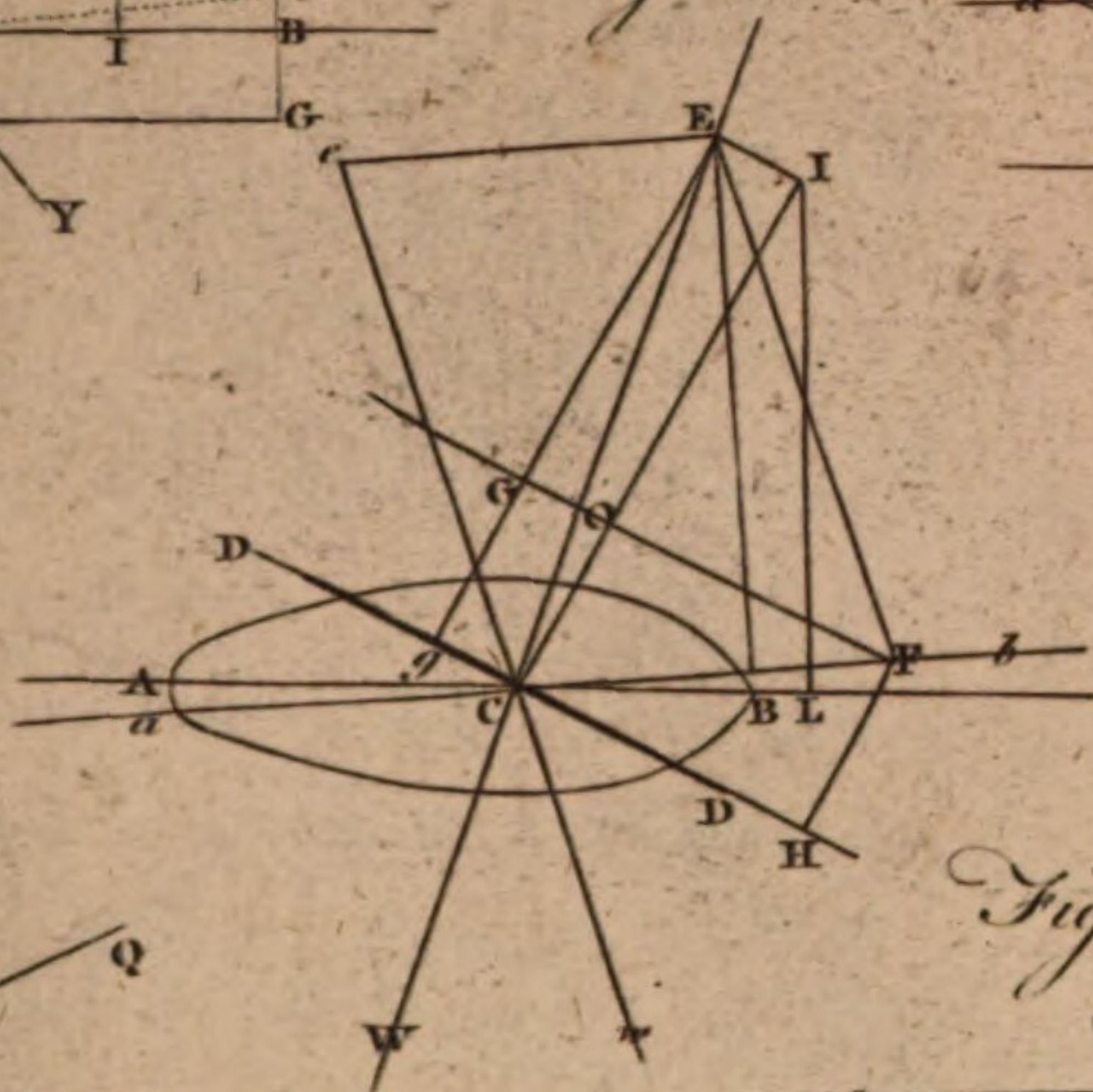
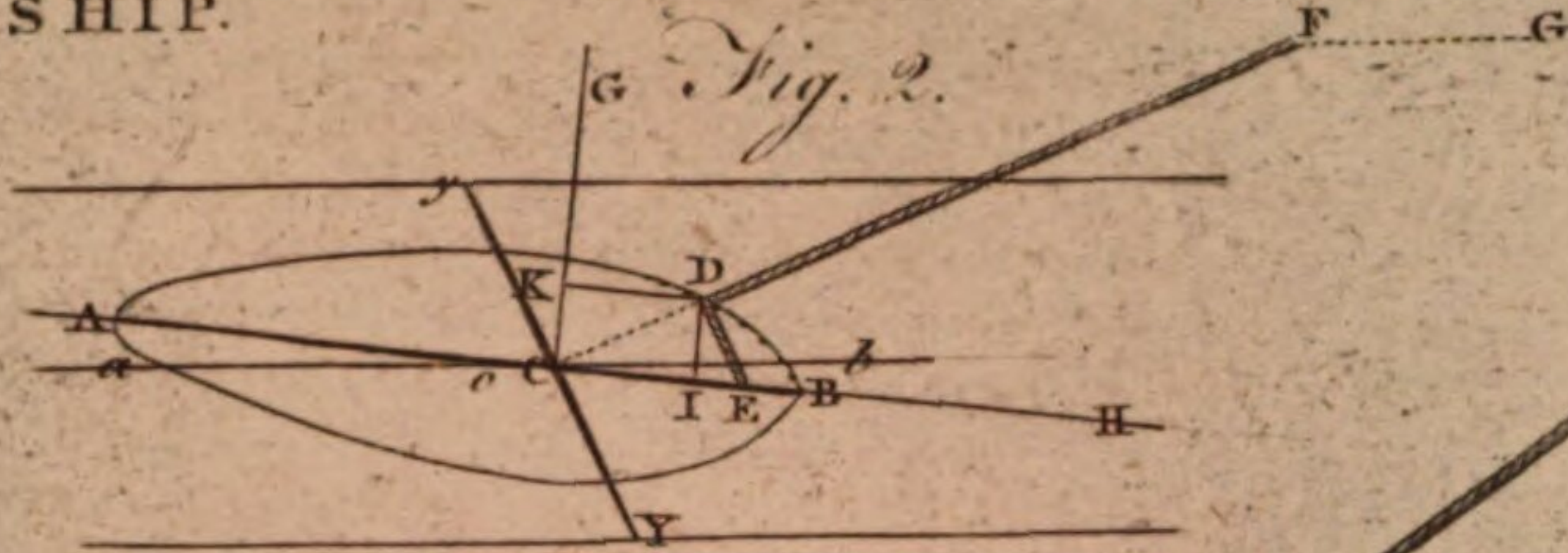
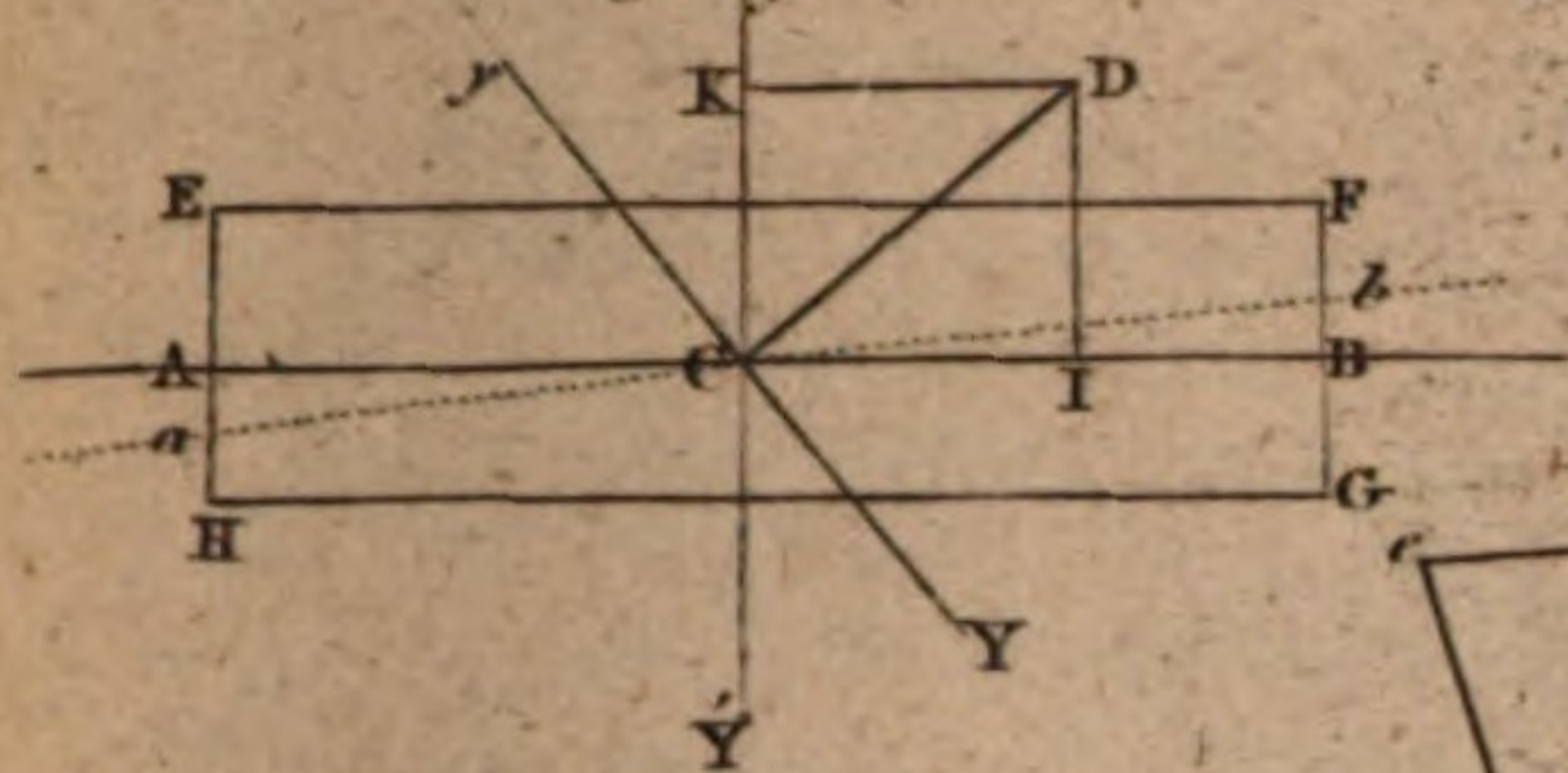
Pf. xxx. 5.

Yet a little while, and the wicked shall be no more;
'Thou shalt look at his place, and he shall not be found:
But the meek shall inherit the land;
And delight themselves in abundant prosperity.

Pf. xxxvii. 10, 11.

In

(κ) All the words bound together by hyphens answer to single words in Hebrew.



Scripture.

In the last example the opposition lies between the two parts of a stanza of four lines, the latter distich being opposed to the former. So likewise the following :

For the mountains shall be removed ;
And the hills shall be overthrown :
But my kindness from thee shall not be removed ;
And the covenant of my peace shall not be overthrown.
Isaiah liv. 10.

Isaiah by means of the antithetic parallelism, without departing from his usual dignity, adds greatly to the sweetness of his composition in the following instances :

In a little anger have I forsaken thee ;
But with great mercies will I receive thee again :
In a short wrath I hid my face for a moment from thee ;
But with everlasting kindness will I have mercy on thee.
Isaiah liv. 7, 8.

Behold my servants shall eat, but ye shall be famished ;
Behold my servants shall drink, but ye shall be thirsty ;
Behold my servants shall rejoice, but ye shall be con-
founded ;

Behold my servants shall sing aloud, for gladness of
heart,
But ye shall cry aloud for grief of heart ;
And in the anguish of a broken spirit shall ye howl.
Isaiah lxv. 13, 14.

Frequently one line or member contains two senti-
ments :

The nations raged ; the kingdoms were moved ;
He uttered a voice ; the earth was dissolved :
Be still, and know that I am God :
I will be exalted in the nations, I will be exalted in the
earth. Pf. xlv. 6. 10.

When thou passest through waters I am with thee ;
And through rivers, they shall not overwhelm thee :
When thou walkest in the fire thou shalt not be scorched ;
And the flame shall not cleave to thee.
Isaiah xliii. 2.

The third sort of parallels is the synthetic or con-
structive : where the parallelism consists only in the si-
milar form of construction ; in which word does not
answer to word, and sentence to sentence, as equivalent
or opposite ; but there is a correspondence and equality
between different propositions, in respect of the shape
and turn of the whole sentence, and of the constructive
parts ; such as noun answering to noun, verb to verb,
member to member, negative to negative, interrogative
to interrogative.

Lo ! he withholdeth the waters, and they are dried up :
And he sendeth them forth, and they overturn the earth.
With him is strength, and perfect existence ;
The deceived, and the deceiver, are his.
Job xii. 13—16.

Is such then the fast which I choose ?
That a man should afflict his soul for a day ?
Is it, that he should bow down his head like a bulrush,
And spread sackcloth and ashes for his couch ?
Shall this be called a fast,
And a day acceptable to Jehovah ?
Is not this the fast that I choose ?
To dissolve the bands of wickedness ;
To loosen the oppressive burthens ;
To deliver those that are crushed by violence ;

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And that ye should break asunder every yoke ?
Is it not to distribute thy bread to the hungry ;
And to bring the wandering poor into thy house ?
When thou seest the naked, that thou clothe him ;
And that thou hide not thyself from thine own flesh ?
Then shall thy light break forth like the morning ;
And thy wounds shall speedily be healed over :
And thy righteousness shall go before thee ;
And the glory of Jehovah shall bring up thy rear."
Isaiah lviii. 5—8.

We shall produce another example of this species of
parallelism from Pf. xix. 8—11. from Dr Lowth :

The law of Jehovah is perfect, restoring the soul ;
The testimony of Jehovah is sure, making wise the
simple :
The precepts of Jehovah are right, rejoicing the heart ;
The commandment of Jehovah is clear, enlightening
the eyes :
The fear of Jehovah is pure, enduring for ever ;
The judgments of Jehovah are truth, they are just alto-
gether.
More desirable than gold, or than much fine gold ;
And sweeter than honey, or the dropping of honey-
combs.

Synonymous parallels have the appearance of art and
concinnity, and a studied elegance ; they prevail chiefly
in shorter poems ; in many of the Psalms ; in Balaam's
prophecies ; frequently in those of Isaiah, which are
most of them distinct poems of no great length. The
antithetic parallelism gives an acuteness and force to
adages and moral sentences ; and therefore abounds in
Solomon's Proverbs, and elsewhere is not often to be
met with. The poem of Job, being on a large plan,
and in a high tragic style, though very exact in the di-
vision of the lines and in the parallelism, and affording
many fine examples of the synonymous kind, yet con-
sists chiefly of the constructive. A happy mixture of
the several sorts gives an agreeable variety : and they
serve mutually to recommend and set off one another.

The reader will perceive that we have derived every
thing we have said relating to Hebrew poetry from the
elegant Lectures of Dr Lowth, which are beautifully
translated by Mr Gregory, a distinguished author as
well as translator.

The book of Proverbs has always been accounted ca-
nonical. The Hebrew title of it is *Mishli**, which sig-
nifies "similitudes." It has always been ascribed to So-
lomon, whose name it bears, though some have doubted
whether he really was the author of every one of the
maxims which it contains. Those in chap. xxx. are in-
deed called *the words of Agur* the son of *Jakeh*, and
the title of the 31st or last chapter is *the words of*
King Lemuel. It seems certain that the collection call-
ed the *Proverbs of Solomon* was digested in the order in
which we now have it by different hands ; but it is
not, therefore, to be concluded that they are not the
work of Solomon. Several persons might have made
collections of them : Hezekiah, among others, as men-
tioned chapter xxv. Agur and Ezra might have done
the same. From these several collections the work was
compiled which we have now in our hands.

The book of Proverbs may be considered under five
divisions. 1. The first, which is a kind of preface, ex-
tends

42
The book
of Pro-
verbs.
משלי

Q

Scripture. tends to the 10th chapter. This contains general cautions and exhortations for a teacher to his pupil, expressed in elegant language, duly connected in its parts, illustrated with beautiful description, and well contrived to engage and interest the attention.

2. The second part extends from the beginning of chap. x. to chap. xxii. 17. and consists of what may strictly and properly be called proverbs, viz. unconnected sentences, expressed with much neatness and simplicity. They are truly, to use the language of their sage author, "apples of gold in pictures of silver."

3. In the third part, which is included between chapter xxii. 16. and chapter xxv. the tutor drops the sententious style, addresses his pupil as present, and delivers his advices in a connected manner.

4. The proverbs which are included between chapter xxv. and chapter xxx. are supposed to have been selected by the men of Hezekiah from some larger collection of Solomon, that is, by the prophets whom he employed to restore the service and writings of the church. Some of the proverbs which Solomon had introduced into the former part of the book are here repeated.

5. The prudent admonitions which Agur delivered to his pupils Ithiel and Ucal are contained in the 30th chapter, and in the 31st are recorded the precepts which the mother of Lemuel delivered to her son.

Several references are evidently made to the book of

* Rom. xii. Proverbs by the writers of the New Testament *.

16, 20.

1 Pet. iv.

8. v. 5.

James iv.

6.

The Proverbs of Solomon afford specimens of the didactic poetry of the Hebrews. They abound with antithetic parallels; for this form is peculiarly adapted to that kind of writing, to adages, aphorisms, and detached sentences. Indeed, the elegance, acuteness, and force of a great number of Solomon's wise sayings arise in a great measure from the antithetic form, the opposition of diction and sentiment. Take the following examples:

The blows of a friend are faithful;
But the kisses of an enemy are treacherous.
The cloyed will trample upon an honeycomb;
But to the hungry every bitter thing is sweet.
There is who maketh himself rich, and wanteth all things;
Who maketh himself poor, yet hath much wealth.
The rich man is wise in his own eyes,
But the poor man that hath discernment to trace him out will despise him*.

* Proverbs

xxvii. 6, 7.

xiii. 7.

xxviii. 11.

43.

Ecclesiastes.

The Hebrew title of the book which we call Ecclesiastes is *Keleth*, that is, the *Gatherer* or *Collector*; and it is so called, either because the work itself is a collection of maxims, or because it was delivered to an assembly gathered together to hear them. The Greek term *Ecclesiastes* is of the same import, signifying one who gathers together a congregation, or who discourses or preaches to an assembly convened. That Solomon was the author of this book is beyond all doubt; the beautiful description of the phenomena in the natural world, and their causes; of the circulation of the blood, as some think*, and the economy of the human frame, shews it to be the work of a philosopher. At what period of his life it was written may be easily found out. The affecting account of the infirmities of old age which it contains, is a strong indication that the author knew by experience what they were; and his

* See Hor.ley's Sermon before the Humane Society.

complete conviction of the vanity of all earthly enjoyments proves it to have been the work of a penitent. Some passages in it seem, indeed, to express an Epicurean notion of Providence. But it is to be observed, that the author, in an academic way, disputes on both sides of the question; and at last concludes properly, that to "fear God and keep his commandments is the whole duty of man; for God (says he) will bring every work to judgment, and every secret thing, whether it be good, or whether it be evil."

The general tenor and style of Ecclesiastes is very different from the book of Proverbs, though there are many detached sentiments and proverbs interspersed. For the whole work is uniform, and confined to one subject, namely, the vanity of the world exemplified by the experience of Solomon, who is introduced in the character of a person investigating a very difficult question, examining the arguments on either side, and at length disengaging himself from an anxious and doubtful disputation. It would be very difficult to distinguish the parts and arrangement of this production; the order of the subject, and the connection of the arguments, are involved in so much obscurity, that scarcely any two commentators have agreed concerning the plan of the work, and the accurate division of it into parts or sections. The truth is, the laws of methodical composition and arrangement were neither known by the Hebrews nor regarded in their didactic writings. They uniformly retained the old sententious manner, nor did they submit to method, even where the occasion appeared to demand it. The style of this work is, however, singular; the language is generally low; it is frequently loose, unconnected, approaching to the incorrectness of conversation; and possesses very little of the poetical character, even in the composition and structure of the periods: which peculiarity may possibly be accounted for from the nature of the subject. Contrary to the opinion of the Rabbies, Ecclesiastes has been classed among the poetical books; though, if their authority and opinions were of any weight or importance, they might perhaps on this occasion deserve some attention.

The Song of Solomon, in the opinion of Dr Lowth, Song of is an *epithalamium* or nuptial dialogue, in which the Solomon. principal characters are Solomon, his bride, and a chorus of virgins. Some are of opinion that it is to be taken altogether in a literal sense; but the generality of Jews and Christians have esteemed it wholly allegorical, expressing the union of Jesus Christ and the church. Dr Lowth has supported the common opinion, by showing that the sacred writers often apply metaphors to God and his people derived from the conjugal state. Our Saviour is styled a *bridegroom* by John the Baptist (John iii.), and is represented in the same character in the parable of the ten virgins. Michaelis, on the other hand, rejects the argument drawn from analogy as inconclusive, and the opinion of Jews and Christians as of no greater authority than the opinion of the moderns.

The second of those great divisions under which the Jews classed the books of the Old Testament was that of the Prophets, which formerly comprehended 16 books.

The Prophets were 16 in number: Isaiah, Jeremiah, Ezekiel, Daniel, Hosea, Joel, Amos, Obadiah, Jonah, Micah, Nahum, Habakkuk, Zephaniah, Haggai, Zechariah,

Scripture.

Lowth's Hebrew Poetry.

44

Scripture. chariah, Malachi. The four first are called the greater prophets; the other twelve are denominated the minor prophets.

45 Writings of the prophets. The writings of the Prophets are to Christians the most interesting part of the Old Testament; for they afford one of the most powerful arguments for the divine origin of the Christian religion. If we could only prove, therefore, that these prophecies were uttered a single century before the events took place to which they relate, their claim to inspiration would be unquestionable. But we can prove that the interval between their enunciation and accomplishment extended much farther, even to 500 and 1000 years, and in some cases much more.

46 Their authenticity. The books of the prophets are mentioned by Josephus, and therefore surely existed in his time; they are also quoted by our Saviour, under the general denomination of the *Prophets*. We are informed by Tacitus and Suetonius, that about 60 years before the birth of our Saviour there was an universal expectation in the east of a great personage who was to arise; and the source of this expectation is traced by the same writers to the sacred books of the Jews. They existed also in the time of Antiochus Epiphanes, A. C. 166; for when that tyrant prohibited the reading of the law, the books of the Prophets were substituted in its place, and were continued as a part of the daily service after the interdiction against the law of Moses was taken off. We formerly remarked, that references are made by the author of *Ecclesiasticus*, A. C. 200, to the writings of Isaiah, Jeremiah, and Ezekiel, and that he mentions the 12 Prophets. We can ascend still higher, and assert from the language of the Prophets, that all their writings must have been composed before the Babylonish captivity, or within a century after it; for all of them, except Daniel and Ezra, are composed in Hebrew, and even in them long passages are found in that language: but it is a well known fact, that all the books written by Jews about two centuries after that era are composed in the Syriac, or Chaldaic, or Greek language. "Let any man (says Michaelis) compare what was written in Hebrew after the Babylonish exile, and, I apprehend, he will perceive no less evident marks of decay than in the Latin language." Even in the time of Ezra, the common people, from their long residence in Babylonia, had forgotten the Hebrew, and it was necessary for the learned to interpret the law of Moses to them. We can therefore ascertain with very considerable precision the date of the prophetic writings; which indeed is the only important point to be determined: For whether we can discover the authors or not, if we can only establish their ancient date, we shall be fully entitled to draw this conclusion, that the predictions of the Prophets are inspired.

47 And inspiration. Much has been written to explain the nature of inspiration, and to show by what methods God imparted to the prophets that divine knowledge which they were commanded to publish to their countrymen. Attempts have been made to disclose the nature of dreams and visions, and to describe the ecstasy or rapture to which the prophets were supposed to be raised while they uttered their predictions. Not to mention the degrading and indecent comparison which this last circumstance suggests, we shall only inform those who expect here an explanation of the prophetic dreams and

visions, that *we shall not attempt to be wise above what is written.* The manner in which the allwise and unseen God may think proper to operate upon the minds of his creatures, we might expect *a priori* to be mysterious and inexplicable. Indeed such an inquiry, though it were successful, would only gratify curiosity, without being in the least degree conducive to useful knowledge.

The business of philosophy is not to inquire how almighty power produced the frame of nature, and bestowed upon it that beauty and grandeur which is everywhere conspicuous, but to discover those marks of intelligence and design, and the various purposes to which the works of nature are subservient. Philosophy has of late been directed to theology and the study of the Scriptures with the happiest effects; but it is not permitted to enter within the veil which the Lord of Nature has thrown over his councils. Its province, which is sufficiently extensive, is to examine the language of the prophecies, and to discover their application.

48 Character of their style symbolical. The character of the prophetic style varies according to the genius, the education, and mode of living of the respective authors; but there are some peculiarities which run through the whole prophetic books. A plain unadorned style would not have suited those men who were to wrap the mysteries of futurity in a veil, which was not to be penetrated till the events themselves should be accomplished. For it was never the intention of prophecy to unfold futurity to our view, as many of the rash interpreters of prophecy fondly imagine; for this would be inconsistent with the free agency of man. It was therefore agreeable to the wisdom of God that prophecies should be couched in a language which would render them unintelligible till the period of their completion; yet such a language as is distinct, regular, and would be easily explained when the events themselves should have taken place. This is precisely the character of the prophetic language. It is partly derived from the hieroglyphical symbols of Egypt, to which the Israelites during their servitude were familiarized, and partly from that analogy which subsists between natural objects and those which are moral and political.

49 Borrowed from analogy. The prophets borrowed their imagery from the most splendid and sublime natural objects, from the host of heaven, from seas and mountains, from storms and earthquakes, and from the most striking revolutions in nature. The *celestial bodies* they used as symbols to express thrones and dignities, and those who enjoyed them. *Earth* was the symbol for men of low estate. *Hades* represents the miserable. *Ascending to heaven*, and *descending to earth*, are phrases which express rising to power, or falling from it. *Great earthquakes*, the *shaking of heaven and earth*, denote the commotions and overthrow of kingdoms. The *sun* represents the whole race of kings shining with regal power and glory. The *moon* is the symbol of the common people. The *stars* are subordinate princes and great men. *Light* denotes glory, truth, or knowledge. *Darkness* expresses obscurity of condition, error, and ignorance. The *darkening of the sun*, the *turning of the moon into blood*, and the *falling of the stars*, signify the destruction or desolation of a kingdom. *New moons*, the returning of a nation from a dispersed state. *Conflagration of the earth*, is the sym-

Scripture. bol for destruction by war. The *ascent of smoke* from any thing burning for ever, denotes the continuance of a people under slavery. *Riding in the clouds*, signifies reigning over many subjects. *Tempestuous winds*, or *motion of the clouds*, denote wars. *Thunder* denotes the noise of multitudes. *Fountains of waters* express cities. *Mountains and islands*, cities with the territories belonging to them. *Houses and ships* stand for families, assemblies, and towns. A *forest* is put for a kingdom. A *wilderness* for a nation much diminished in its numbers.

30
And from
hierogly-
phics.

Animals, as a *lion*, *bear*, *leopard*, *goat*, are put for kingdoms or political communities corresponding to their respective characters. When a man or beast is put for a kingdom, the head represents those who govern; the *tail* those who are governed; the *horns* denote the number of military powers or states that rise from the head. *Seeing* signifies understanding; *eyes* men of understanding; the *mouth* denotes a lawgiver; the *arm of a man* is put for power, or for the people by whose strength his power is exercised; *feet* represent the lowest of the people.

Such is the precision and regularity of the prophetic language, which we learn to interpret by comparing prophecies which are accomplished with the facts to which they correspond. So far is the study of it carried already, that a dictionary has been composed to explain it; and it is probable, that in a short time it may be so fully understood, that we shall find little difficulty in explaining any prophecy. But let us not from this expect, that the prophecies will enable us to penetrate the dark clouds of futurity: No! The difficulty of applying prophecies to their corresponding events, before completion, will still remain unfurmountable. Those men, therefore, however pious and well-meaning they may be, who attempt to explain and apply prophecies which are not yet accomplished, and who delude the credulous multitude by their own romantic conjectures, cannot be acquitted of rashness and presumption.

51
Is also
poetical.

The predictions of the prophets, according to the opinion of Dr Lowth, are written in a poetic style. They possess indeed all the characteristics of Hebrew poetry, with the single exception, that none of them are alphabetical or acrostic, which is an artificial ar-

angement utterly repugnant to the nature of pro-
phesy.

The other arguments, however, ought to be particularly adverted to upon this subject: the poetic dialect, for instance, the diction so totally different from the language of common life, and other similar circumstances, which an attentive reader will easily discover, but which cannot be explained by a few examples; for circumstances which, taken separately, appear but of small account, are in a united view frequently of the greatest importance. To these we may add the artificial conformation of the sentences; which are a necessary concomitant of metrical composition, the only one indeed which is now apparent, as it has always appeared to us.

The order in which the books of the minor prophets are placed is not the same in the Septuagint as in the Hebrew*. According to the latter, they stand as in our translation; but in the Greek, the series is altered as to the six first, to the following arrangement: Hosea, Amos, Micah, Joel, Obadiah, Jonah. This change, however, is of no consequence, since neither in the original, nor in the Septuagint, are they placed with exact regard to the time in which their sacred authors respectively flourished.

The order in which they should stand, if chronologically arranged, is by Blair and others supposed to be as follows: Jonah, Amos, Hosea, Micah, Nahum, Joel, Zephaniah, Habbakuk, Obadiah, Haggai, Zechariah, Malachi. And this order will be found to be generally consistent with the periods to which the Prophets will be respectively assigned in the following pages, except in the instance of Joel, who probably flourished rather earlier than he is placed by these chronologers. The precise period of this prophet, however, cannot be ascertained; and some disputes might be maintained concerning the priority of others also, when they were nearly contemporaries, as Amos and Hosea; and when the first prophecies of a later prophet were delivered at the same time with, or previous to, those of a prophet who was called earlier to the sacred office. The following scheme, however, in which also the greater prophets will be introduced, may enable the reader more accurately to comprehend the actual and relative periods in which they severally prophesied.

The PROPHETS in their supposed Order of Time, arranged according to Blair's Tables* with but little Variation.

	Before Christ.	Kings of Judah.	Kings of Israel.
Jonah,	Between 856 and 784.		Jehu, and Jehoahaz, according to Lloyd; but Joash and Jeroboam the Second according to Blair.
Amos,	Between 810 and 785.	Uzziah, ch. i. 1.	Jeroboam the Second, chap. i. 1.
Hosea,	Between 810 and 725.	Uzziah, Jotham, Ahaz, the third year of Hezekiah.	Jeroboam the Second, chap. i. 1.

* Bishop Newcome's Version of Minor Prophets, Preface, p. 43.

Scripture.

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	Before Christ.	Kings of Judah.	Kings of Israel.
Isaiah,	Between 810 and 698.	Uzziah, Jotham, Ahaz, and Hezekiah, chap. i. 1. and perhaps Manasseh.	
Joel,	Between 810 and 660, or later.	Uzziah, or possibly Manasseh.	
Micah,	Between 758 and 699.	Jotham, Ahaz, and Hezekiah, chap. i. 1.	Pekah and Hosea.
Nahum,	Between 720 and 698.	Probably towards the close of Hezekiah's reign.	
Zephaniah,	Between 640 and 609.	In the reign of Josiah, chap. i. 1.	
Jeremiah,	Between 628 and 586.	In the thirteenth year of Josiah.	
Habakkuk,	Between 612 and 598.	Probably in the reign of Jehoiakim.	
Daniel,	Between 606 and 534.	During all the Captivity.	
Obadiah,	Between 588 and 583.	Between the taking of Jerusalem by Nebuchadnezzar and the destruction of the Edomites by him.	
Ezekiel,	Between 595 and 536.	During part of the Captivity.	
Haggai,	About 520 to 518.	After the return from Babylon.	
Zechariah,	From 520 to 518, or longer.		
Malachi,	Between 436 and 397.		

52.
Isaiah.

Isaiah is supposed to have entered upon the prophetic office in the last year of the reign of Uzziah, about 758 years before Christ: and it is certain that he lived to the 15th or 16th years of Hezekiah. This makes the least possible term of the duration of his prophetic office about 48 years. The Jews have a tradition that Isaiah was put to death in the reign of Manasseh, being sawn asunder with a wooden saw by the command of that tyrant: but when we recollect how much the traditions of the Jews were condemned by our Saviour, we will not be disposed to give them much credit. The time of the delivery of some of his prophecies is either expressly marked, or sufficiently clear from the history to which they relate. The date of a few others may with some probability be deduced from internal marks; from expressions, descriptions, and circumstances interwoven.

53.
Character
of his style. Isaiah, the first of the prophets both in order and dignity, abounds in such transcendent excellencies, that

he may be properly said to afford the most perfect model of the prophetic poetry. He is at once elegant and sublime, forcible and ornamented; he unites energy with copiousness, and dignity with variety. In his sentiments there is uncommon elevation and majesty; in his imagery the utmost propriety, elegance, dignity, and diversity; in his language uncommon beauty and energy; and, notwithstanding the obscurity of his subjects, a surprising degree of clearness and simplicity. To these we may add, there is such sweetness in the poetical composition of his sentences, whether it proceed from art or genius, that if the Hebrew poetry at present is possessed of any remains of its native grace and harmony, we shall chiefly find them in the writings of Isaiah: so that the saying of Ezekiel may most justly be applied to this prophet:

Thou art the confirmed exemplar of measures,
Full of wisdom, and perfect in beauty*.

* Ezekiel
xxviii. 12.

Isaiah.

Scripture. Isaiah greatly excels too in all the graces of method, order, connection, and arrangement: though in asserting this we must not forget the nature of the prophetic impulse, which bears away the mind with irresistible violence, and frequently in rapid transitions from near to remote objects, from human to divine; we must also be careful in remarking the limits of particular predictions, since, as they are now extant, they are often improperly connected, without any marks of discrimination; which injudicious arrangement, on some occasions, creates almost insuperable difficulties. It is, in fact, a body or collection of different prophecies, nearly allied to each other as to the subject, which, for that reason, having a sort of connection, are not to be separated but with the utmost difficulty. The general subject is the restoration of the church. Its deliverance from captivity; the destruction of idolatry; the vindication of the divine power and truth; the consolation of the Israelites, the divine invitation which is extended to them, their incredulity, impiety, and rejection; the calling in of the Gentiles; the restoration of the chosen people; the glory and felicity of the church in its perfect state; and the ultimate destruction of the wicked—are all set forth with a sufficient respect to order and method. If we read these passages with attention, and duly regard the nature and genius of the mystical allegory, at the same time remembering that all these points have been frequently touched upon in other prophecies promulgated at different times, we shall neither find any irregularity in the arrangement of the whole, nor any want of order and connection as to matter or sentiment in the different parts. Dr Lowth esteems the whole book of Isaiah to be poetical, a few passages excepted, which, if brought together, would not at most exceed the bulk of five or six chapters.

54
Unparalleled
sublimity of the
14th chapter.

The 14th chapter of Isaiah is one of the most sublime odes in the Scripture, and contains one of the noblest personifications to be found in the records of poetry.

The prophet, after predicting the liberation of the Jews from their severe captivity in Babylon, and their restoration to their own country, introduces them as reciting a kind of triumphal song upon the fall of the Babylonish monarch, replete with imagery, and with the most elegant and animated personifications. A sudden exclamation, expressive of their joy and admiration on the unexpected revolution in their affairs, and the destruction of their tyrants, forms the exordium of the poem. The earth itself triumphs with the inhabitants thereof; the fir-trees and the cedars of Lebanon (under which images the parabolic style frequently delineates the kings and princes of the Gentiles) exult with joy, and persecute with contemptuous reproaches the humbled power of a ferocious enemy:

The whole earth is at rest, is quiet; they burst forth into a joyful shout:

Even the fir-trees rejoice over thee, the cedars of Lebanon:

Since thou art fallen, no feller hath come up against us.

This is followed by a bold and animated personification of Hades, or the infernal regions:

Hades from beneath is moved because of thee, to meet thee at thy coming:

He rouseth for thee the mighty dead, all the great chiefs of the earth;

He maketh to rise up from their thrones all the kings of the nations.

Hades excites his inhabitants, the ghosts of princes, and the departed spirits of kings: they rise immediately from their seats, and proceed to meet the monarch of Babylon; they insult and deride him, and comfort themselves with the view of his calamity:

Art thou, even thou too, become weak as we? art thou made like unto us?

Is then thy pride brought down to the grave; the sound of thy prightly instruments?

Is the vermin become thy couch, and the earthworm thy covering?

Again, the Jewish people are the speakers, in an exclamation after the manner of a funeral lamentation, which indeed the whole form of this composition exactly imitates. The remarkable fall of this powerful monarch is thus beautifully illustrated:

How art thou fallen from heaven, O Lucifer, son of the morning!

Art cut down from earth, thou that didst subdue the nations!

Yet thou didst say in thy heart, I will ascend the heavens;

Above the stars of God I will exalt my throne;
And I will sit upon the mount of the divine presence,
on the sides of the north:

I will ascend above the heights of the clouds; I will be like the most High.

But thou shalt be brought down to the grave, to the sides of the pit.

He himself is at length brought upon the stage, boasting in the most pompous terms of his own power; which furnishes the poet with an excellent opportunity of displaying the unparalleled misery of his downfall. Some persons are introduced, who find the dead carcase of the king of Babylon cast out and exposed; they attentively contemplate it, and at last scarcely know it to be his:

Is this the man that made the earth to tremble, that shook the kingdoms?

That made the world like a desert, that destroyed the cities?

That never dismissed his captives to their own home?

All the kings of the nations, all of them,

Lie down in glory, each in his own sepulchre:

But thou art cast out of the grave, as the tree abominated;

Clothed with the slain, with the pierced by the sword,
With them that go down to the stones of the pit; as a trodden carcase.

Thou shalt not be joined unto them in burial;

Because thou hast destroyed thy country, thou hast slain thy people:

The seed of evil doers shall never be renowned.

They reproach him with being denied the common rites of sepulture, on account of the cruelty and atrocity of his conduct; they execrate his name, his offspring, and their posterity. A solemn address, as of the Deity himself,

Scripture. self, closes the scene, and he denounces against the king of Babylon, his posterity, and even against the city which was the seat of their cruelty, perpetual destruction, and confirms the immutability of his own counsels by the solemnity of an oath.

How forcible is this imagery, how diversified, how sublime! how elevated the diction, the figures, the sentiments!—The Jewish nation, the cedars of Lebanon, the ghosts of departed kings, the Babylonish monarch, the travellers who find his corpse, and last of all Jehovah himself, are the characters which support this beautiful lyric drama. One continued action is kept up, or rather a series of interesting actions are connected together in an incomparable whole. This, indeed, is the principal and distinguished excellence of the sublimer ode, and is displayed in its utmost perfection in this poem of Isaiah, which may be considered as one of the most ancient, and certainly the most finished, specimen of that species of composition which has been transmitted to us. The personifications here are frequent, yet not confused; bold, yet not improbable: a free, elevated, and truly divine spirit, pervades the whole; nor is there any thing wanting in this ode to defeat its claim to the character of perfect beauty and sublimity. “If (says Dr Lowth) I may be indulged in the free declaration of my own sentiments on this occasion, I do not know a single instance in the whole compass of Greek and Roman poetry, which, in every excellence of composition, can be said to equal, or even approach it.”

55 Jeremiah. Jeremiah was called to the prophetic office in the 13th year of the reign of Josiah the son of Amon, A. M. 3376, A. C. 628, and continued to prophecy upwards of 40 years, during the reigns of the degenerate princes of Judah, to whom he boldly threatened those marks of the divine vengeance which their rebellious conduct drew on themselves and their country. After the destruction of Jerusalem by the Chaldeans, he was suffered by Nebuchadnezzar to remain in the desolate land of Judea to lament the calamities of his infatuated countrymen. He was afterwards, as he himself informs us, carried with his disciple Baruch into Egypt, by Johanan the son of Kareah.

It appears from several passages that Jeremiah committed his prophecies to writing. In the 36th chapter we are informed, that the prophet was commanded to write upon a roll all the prophecies which he had uttered; and when the roll was destroyed by Jehoiakim the king, Jeremiah dictated the same prophecies to Baruch, who wrote them together with many additional circumstances. The works of Jeremiah extend to the last verse of the 51st chapter; in which we have these words, “Thus far are the words of Jeremiah.” The 52d chapter was therefore added by some other writer. It is, however, a very important supplement, as it illustrates the accomplishment of Jeremiah’s prophecies respecting the fate of Zedekiah.

56 Chronological arrangement of his writings. The prophecies of Jeremiah are not arranged in the chronological order in which they were delivered.

What has occasioned this transposition cannot now be determined. It is generally maintained, that if we consult their dates, they ought to be thus placed:

In the reign of Josiah the first 12 chapters.

In the reign of Jehoiakim, chapters xiii. xx. xxi. v. 11, 14.; xxii. xxiii. xxv. xxvi. xxxv. xxxvi. xlv.—xlix. 1—33.

In the reign of Zedekiah, chap. xxi. 1—10. xxiv. xxvii. xxxiv. xxxvii. xxxix. xlix. 34—39. l. and li.

Under the government of Gedaliah, chapters xl. xliv. The prophecies which related to the Gentiles were contained in the 46th and five following chapters, being placed at the end, as in some measure unconnected with the rest. But in some copies of the Septuagint these six chapters follow immediately after the 13th verse of the 25th chapter.

Jeremiah, though deficient neither in elegance nor sublimity, must give place in both to Isaiah. Jerome seems to object against him a sort of rusticity of language, no vestige of which Dr Lowth was able to discover. His sentiments, it is true, are not always the most elevated, nor are his periods always neat and compact; but these are faults common to those writers whose principal aim is to excite the gentler affections, and to call forth the tear of sympathy or sorrow. This observation is very strongly exemplified in the Lamentations, where these are the prevailing passions; it is, however, frequently instanced in the prophecies of this author, and most of all in the beginning of the book (L), which is chiefly poetical. The middle of it is almost entirely historical. The latter part, again, consisting of the six last chapters, is altogether poetical (M); it contains several different predictions, which are distinctly marked; and in these the prophet approaches very near the sublimity of Isaiah. On the whole, however, not above half the book of Jeremiah is poetical.

57 The book of Lamentations, as we are informed in the title, was composed by Jeremiah. We shall present to our reader an account of this elegiac poem from the elegant pen of Dr Lowth.

The Lamentations of Jeremiah (for the title is properly and significantly plural) consist of a number of plaintive effusions, composed upon the plan of the funeral dirges, all upon the same subject, and uttered without connection as they rose in the mind, in a long course of separate stanzas. These have afterwards been put together, and formed into a collection or correspondent whole. If any reader, however, should expect to find in them an artificial and methodical arrangement of the general subject, a regular disposition of the parts, a perfect connection and orderly succession in the matter, and with all this an uninterrupted series of elegance and correctness, he will really expect what was foreign to the prophet’s design. In the character of a mourner, he celebrates in plaintive strains the obsequies of his ruined country: whatever presented itself to his mind in the midst of desolation and misery, whatever struck him as particularly wretched and calamitous, whatever the instant sentiment of sorrow dictated, he pours forth in

(L) See the whole of chap. ix. chap. xiv. 17, &c. xx. 14—18.

(M) Chap. xlv. —li. to ver. 59. Chap. lii. properly belongs to the Lamentations, to which it serves as an exordium.

Scripture. in a kind of spontaneous effusion. He frequently pauses, and, as it were, ruminates upon the same object; frequently varies and illustrates the same thought with different imagery, and a different choice of language; so that the whole bears rather the appearance of an accumulation of corresponding sentiments, than an accurate and connected series of different ideas, arranged in the form of a regular treatise. There is, however, no wild incoherency in the poem; the translations are easy and elegant.

38
How divided.

The work is divided into five parts; in the first, second, and fourth chapters, the prophet addresses the people in his own person, or introduces Jerusalem as speaking. In the third chapter a chorus of the Jews is represented. In the fifth the whole captive Jews pour forth their united complaints to Almighty God. Each of these five parts is distributed into 22 stanzas, according to the number of the letters of the alphabet. In the three first chapters these stanzas consist of three lines. In the four first chapters the initial letter of each period follows the order of the alphabet; and in the third chapter each verse of the same stanza begins with the same letter. In the fourth chapter all the stanzas are evidently distichs, as also in the fifth, which is not acrostic. The intention of the acrostic was to assist the memory to retain sentences not much connected. It deserves to be remarked, that the verses of the first four chapters are longer by almost one half than Hebrew verses generally are: The length of them seems to be on an average about 12 syllables. The prophet appears to have chosen this measure as being solemn and melancholy.

Lowth.
59
The subject and beauty of it.

* Josephus,
Jerome,
Vossius,
&c.

"That the subject of the Lamentations is the destruction of the holy city and temple, the overthrow of the state, the extermination of the people; and that these events are described as actually accomplished, and not in the style of prediction merely, must be evident to every reader; though some authors of considerable reputation * have imagined this poem to have been composed on the death of king Josiah. The prophet, indeed, has so copiously, so tenderly, and poetically, bewailed the misfortunes of his country, that he seems completely to have fulfilled the office and duty of a mourner. In my opinion, there is not extant any poem which displays such a happy and splendid selection of imagery in so concentrated a state. What can be more elegant and poetical, than the description of that once flourishing city, lately chief among the nations, sitting in the character of a female solitary, afflicted, in a state of widowhood, deserted by her friends, betrayed by her dearest connections, imploring relief, and seeking consolation in vain? What a beautiful personification is that of "the ways of Sion mourning because none are come to her solemn feasts?" How tender and pathetic are the following complaints?

Chap: i.
22, 26.

Is this nothing to all you who pass along the way? behold and see,
If there be any sorrow, like unto my sorrow, which is inflicted on me;
Which Jehovah inflicted on me in the day of the violence of his wrath.
For these things I weep, my eyes stream with water;
Because the comforter is far away, that should tranquilize my soul:
My children are desolate, because the enemy was strong.

But to detail its beauties would be to transcribe the entire poem." *Scripture.*

60
Ezekiel;

Ezekiel was carried to Babylon as a captive, and received the first revelations from heaven, in the fifth year of Jehoiakim's captivity, A. C. 595. The book of Ezekiel is sometimes distributed under different heads. In the three first chapters the commission of the prophet is described. From the fourth to the thirty-second chapter inclusive, the calamities that befel the enemies of the Jews are predicted, viz. the Ammonites, the Moabites, and Philistines. The ruin of Tyre and of Sidon, and the fall of Egypt, are particularly foretold; prophecies which have been fulfilled in the most literal and astonishing manner, as we have been often assured by the relation of historians and travellers. From the 32d chapter to the 40th he inveighs against the hypocrisy and murmuring spirit of his countrymen, admonishing them to resignation by promises of deliverance. In the 38th and 39th chapters he undoubtedly predicts the final return of the Jews from their dispersion in the latter days, but in a language so obscure that it cannot be understood till the event take place. The nine last chapters of this book furnish the description of a very remarkable vision of a new temple and city, of a new religion and polity.

"Ezekiel is much inferior to Jeremiah in elegance; in sublimity he is not even excelled by Isaiah: but his sublimity is of a totally different kind. He is deep, vehement, tragical; the only sensation he affects to excite is the terrible: his sentiments are elevated, fervid, full of fire, indignant; his imagery is crowded, magnificent, terrific, sometimes almost to disgust: his language is pompous, solemn, austere, rough, and at times unpolished: he employs frequent repetitions, not for the sake of grace or elegance, but from the vehemence of passion and indignation. Whatever subject he treats of, that he sedulously pursues, from that he rarely departs, but cleaves as it were to it; whence the connection is in general evident and well preserved. In many respects he is perhaps excelled by the other prophets; but in that species of composition to which he seems by nature adapted, the forcible, the impetuous, the great and solemn, not one of the sacred writers is superior to him. His diction is sufficiently perspicuous; all his obscurity consists in the nature of the subject. Visions (as for instance, among others, those of Hosea, Amos, and Jeremiah) are necessarily dark and confused. The greater part of Ezekiel, towards the middle of the book especially, is poetical, whether we regard the matter or the diction. His periods, however, are frequently so rude and incompact, that I am often at a loss how to pronounce concerning his performance in this respect.

61
Character as a writer.

Lowth.

"Isaiah, Jeremiah, and Ezekiel, as far as relates to style, may be said to hold the same rank among the Hebrews, as Homer, Simonides, and Æschylus among the Greeks."

So full an account of Daniel and his writings has been already given under the article DANIEL, that little remains to be said on that subject. Daniel flourished during the successive reigns of several Babylonish and Median kings to the conquest of Babylon by Cyrus. The events recorded in the 6th chapter were contemporary with Darius the Mede; but in the 7th and 8th chapters Daniel returns to an earlier period, to relate the

62
Daniel.

Scripture. the visions which he beheld in the three first years of Belshazzar's reign; and those which follow in the four last chapters were revealed to him in the reign of Darius. The six last chapters are composed of prophecies delivered at different times; all of which are in some degree connected as parts of one great scheme. They extend through many ages, and furnish the most striking description of the fall of successive kingdoms, which were to be introductory to the establishment of the Messiah's reign. They characterize in descriptive terms the four great monarchies of the world to be succeeded by "that kingdom which should not be destroyed."

63
Character
of his pro-
phesies.

The whole book of Daniel being no more than a plain relation of facts, partly past and partly future, must be excluded the class of poetical prophecy. Much indeed of the parabolic imagery is introduced in that book; but the author introduces it as a prophet only; as visionary and allegorical symbols of objects and events, totally untinged with the true poetical colouring. The Jews, indeed, would refuse to Daniel even the character of a prophet: but the arguments under which they shelter this opinion are very futile; for those points which they maintain concerning the conditions on which the gift of prophecy is imparted, the different gradations, and the discrimination between the true prophecy and mere inspiration, are all trifling and absurd, without any foundation in the nature of things, and totally destitute of scriptural authority. They add, that Daniel was neither originally educated in the prophetic discipline and precepts, nor afterwards lived conformably to the manner of the prophets. It is not, however, easy to comprehend how this can diminish his claim to a divine mission and inspiration; it may possibly enable us, indeed, to assign a reason for the dissimilarity between the style of Daniel and that of the other prophets, and for its possessing so little of the diction and character of poetry, which the rest seem to have imbibed in common from the schools and discipline in which they were educated.

64
Their au-
thenticity.

The prophecies of Daniel appear so plain and intelligible after their accomplishment, that Porphyry, who wrote in the 3d century, affirms, that they were written after the events to which they refer took place. A little reflection will show the absurdity of this supposition. Some of the prophecies of Daniel clearly refer to Antiochus Epiphanes, with whose oppressions the Jews were too well acquainted. Had the book of Daniel not made its appearance till after the death of Epiphanes, every Jew who read it must have discovered the forgery. And what motive could induce them to receive it among their sacred books? It is impossible to conceive one. Their character was quite the reverse: their respect for the Scriptures had degenerated into superstition. But we are not left to determine this important point from the character of the Jews; we have access to more decisive evidence; we are sure that the book of Daniel contains prophecies, for some of them have been accomplished since the time of Porphyry; particularly those respecting Antichrist: now, if it contains any prophecies, who will take upon him to affirm that the divine Spirit, which dictated these many centuries before they were fulfilled, could not also have delivered prophecies concerning Antiochus Epiphanes?

The language in which the book of Daniel is composed proves that it was written about the time of the

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Babylonish captivity. Part of it is pure Hebrew; a language in which none of the Jewish books were composed after the age of Epiphanes. These are arguments to a deist. To a Christian the internal marks of the book itself will show the time in which it was written, and the testimony of Ezekiel will prove Daniel to be at least his contemporary*.

* Ezek. xiv.

The twelve minor prophets were so called, not from any supposed inferiority in their writings, but on account of the small size of their works. Perhaps it was for this reason that the Jews joined them together, and considered them as one volume. These 12 prophets present in scattered hints a lively sketch of many particulars relative to the history of Judah and of Israel, as well as of other kingdoms: they prophesy with historical exactness the fate of Babylon, of Nineveh, of Tyre, of Sidon, and of Damascus. The three last prophets especially illustrate many circumstances at a period when the historical pages of Scripture are closed, and when profane writers are entirely wanting. At first the Jewish prophets appeared only as single lights, and followed each other in individual succession; but they became more numerous about the time of the captivity. The light of inspiration was collected into one blaze, previous to its suspension; and it served to keep alive the expectations of the Jews during the awful interval which prevailed between the expiration of prophecy and its grand completion on the advent of Christ.

14. xxviii. 3.

65
Twelve
minor pro-
phets.

Gray's Key
to the Old
Testament.

Hosea has been supposed the most ancient of the 12 Prophecies minor prophets. He flourished in the reign of Jeroboam II. king of Israel, and during the successive reigns of Uzziah, Jotham, Ahaz, and Hezekiah, kings of Judah. He was therefore nearly contemporary with Isaiah, Amos, and Jonah. The prophecies of Hosea being scattered through the book without date or connection, cannot with any certainty be chronologically arranged.

66

of Hosea.

Hosea is the first in order of the minor prophets, and is perhaps, Jonah excepted, the most ancient of them all. His style exhibits the appearance of very remote antiquity; it is pointed, energetic, and concise. It bears a distinguished mark of poetical composition, in that pristine brevity and condensation which is observable in the sentences, and which later writers have in some measure neglected. This peculiarity has not escaped the observation of Jerome: "He is altogether (says he, speaking of this prophet) laconic and sententious." But this very circumstance, which anciently was supposed no doubt to impart uncommon force and elegance, in the present ruinous state of the Hebrew literature is productive of so much obscurity, that although the general subject of this writer be sufficiently obvious, he is the most difficult and perplexed of all the prophets. There is, however, another reason for the obscurity of his style: Hosea prophesied during the reigns of the four kings of Judah, Uzziah, Jotham, Ahaz, and Hezekiah. The duration of his ministry, therefore, in whatever manner we calculate, must include a very considerable space of time. We have now only a small volume of his remaining, which seems to contain his principal prophecies; and these are extant in a continued series, with no marks of distinction as to the times in which they were published, or the subjects of which they treat. There is therefore no cause to wonder if, in perusing the prophecies of Hosea, we sometimes find

67

Character
of their
style.

R

our-

Scripture. ourselves in a similar predicament with those who consulted the scattered leaves of the Sibyl.

As a specimen of Hosea's style, we select the following beautiful pathetic passage :

How shall I resign thee, O Ephraim !
How shall I deliver thee up, O Israel !
How shall I resign thee as Admah !
How shall I make thee as Zeboim !
My heart is changed within me ;
I am warmed also with repentance towards thee.
I will not do according to the fervour of my wrath ;
I will not return to destroy Ephraim :
For I am God, and not man ;
Holy in the midst of thee, though I inhabit not thy cities.

68 *Prophecies of Joel.* Concerning the date of the prophecy of Joel there are various conjectures. The book itself affords nothing by which we can discover when the author lived, or upon what occasion it was written. Joel speaks of a great famine, and of mischiefs that happened in consequence of an inundation of locusts ; but nothing can be gathered from such general observations to enable us to fix the period of his prophecy. St Jerome thinks (and it is the general opinion) that Joel was contemporary with Hosea. This is possibly true ; but the foundation on which the opinion rests is very precarious, viz. That when there is no proof of the time in which a prophet lived, we are to be guided in our conjectures respecting it by that of the preceding prophet whose epoch is better known. As this rule is not infallible, it therefore ought not to hinder us from adopting any other opinion that comes recommended by good reasons. Father Calmet places him under the reign of Josiah, at the same time with Jeremiah, and thinks it probable that the famine to which Joel alludes, is the same with that which Jeremiah predicted ch. viii. 13.

69 *Character of their style.* The style of Joel is essentially different from that of Hosea ; but the general character of his diction, though of a different kind, is not less poetical. He is elegant, perspicuous, copious, and fluent ; he is also sublime, animated, and energetic. In the first and second chapters he displays the full force of the prophetic poetry, and shows how naturally it inclines to the use of metaphors, allegories, and comparisons. Nor is the connection of the matter less clear and evident than the complexion of the style : this is exemplified in the display of the impending evils which gave rise to the prophecy ; the exhortation to repentance ; the promises of happiness and success both terrestrial and eternal to those who become truly penitent ; the restoration of the Israelites ; and the vengeance to be taken of their adversaries. But while we allow this just commendation to his perspicuity both in language and arrangement, we must not deny that there is sometimes great obscurity observable in his subject, and particularly in the latter part of the prophecy.

The following prophecy of a plague of locusts is described with great sublimity of expression :

For a nation hath gone up on my land,
Who are strong, and without number :
They have destroyed my vine, and have made my fig-tree a broken branch.

They have made it quite bare, and cast it away : the branches thereof are made white.

* Joel i. 6,
7, 10, &c. The field is laid waste ; the ground mourneth*.

Amos was contemporary with Hosea. They both began to prophecy during the reigns of Uzziah over Judah, and of Jeroboam II. over Israel. Amos saw his first vision two years before the earthquake, which Zechariah informs us happened in the days of Uzziah. See Amos.

Amos was a herdsman of Tekoa, a small town in the territory of Judah, and a gatherer of sycamore fruit. In the simplicity of former times, and in the happy climates of the East, these were not considered as dishonourable occupations. He was no prophet (as he informed Amaziah †), neither was he a prophet's son, † Amos vii. 14. that is, he had no regular education in the schools of the prophets.

The prophecies of Amos consist of several distinct discourses, which chiefly respect the kingdom of Israel ; yet sometimes the prophet inveighs against Judah, and threatens the adjacent nations, the Syrians, Philistines, Tyrians, Edomites, Ammonites, and Moabites.

Jerome calls Amos "rude in speech, but not in knowledge‡;" applying to him what St Paul modestly professes of himself §. "Many (says Dr Lowth) have followed the authority of Jerome in speaking of this prophet, as if he were indeed quite rude, ineloquent, and destitute of all the embellishments of composition. The matter is, however, far otherwise. Let any person who has candour and perspicacity enough to judge, not from the man but from his writings, open the volume of his predictions, and he will, I think, agree with me, that our shepherd 'is not a whit behind the very chief of the prophets||.' He will agree, that as in sublimity and magnificence he is almost equal to the greatest, in splendour of diction and elegance of expression he is scarcely inferior to any. The same celestial Spirit indeed actuated Isaiah and Daniel in the court and Amos in the sheep-folds ; constantly selecting such interpreters of the divine will as were best adapted to the occasion, and sometimes 'from the mouth of babes and sucklings perfecting praise :' occasionally employing the natural eloquence of some, and occasionally making others eloquent."

Mr Locke has observed, that the comparisons of this prophet are chiefly drawn from lions and other animals with which he was most accustomed ; but the finest images and allusions are drawn from scenes of nature. There are many beautiful passages in the writings of Amos, of which we shall present one specimen :

Wo to them that are at ease in Zion,
And trust in the mountains of Samaria ;
Who are named chief of the nations,
To whom the house of Israel came :
Pass ye unto Calneh and see,
And from thence go to Hamath the Great ;
Then go down to Gath of the Philistines ;
Are they better than these kingdoms ?
Or their borders greater than their borders ?
Ye that put far away the evil day,
And cause the seat of violence to come near ;
That lie upon beds of ivory,
And stretch yourselves upon couches ;
That eat the lambs out of the flock,
And the calves out of the midst of the stall ;
That chant to the sound of the viol,
And like David devise instruments of music ;

That

Scripture. That drink wine in bowls,
And anoint yourselves with chief ointments;
|| Ch. vi. 1 *But are not grieved for the affliction of Joseph* ||.

⁷²
Of Obadiah. The writings of Obadiah, which consist of one chapter, are composed with much beauty, and unfold a very interesting scene of prophecy. Of this prophet little can be said, as the specimen of his genius is so short, and the greater part of it included in one of the prophecies of Jeremiah. Compare Ob. 1-9. with Jer. xlix. 14, 15, 16. See OBADIAH.

⁷³
Of Jonah. Though Jonah be placed the sixth in the order of the minor prophets both in the Hebrew and Septuagint, he is generally considered as the most ancient of all the prophets, not excepting Hosea. He lived in the kingdom of Israel, and prophesied to the ten tribes under the reign of Joash and Jeroboam. The book of Jonah is chiefly historical, and contains nothing of poetry but the prayer of the prophet. The sacred writers, and our Lord himself, speaks of Jonah as a prophet of considerable eminence*. See JONAH.

* 2 Kings xiv. 25.
Matth. xii. 39, 41. xvi. 4.
Lukexi. 29.
⁷⁴
Of Micah. Micah began to prophecy soon after Isaiah, Hosea, Joel, and Amos; and he prophesied between A. M. 3246, when Jotham began to reign, and A. M. 3305, when Hezekiah died. One of his predictions is said † to have saved the life of Jeremiah, who under the reign of Jehoiakim would have been put to death for prophesying the destruction of the temple, had it not appeared that Micah had foretold the same thing under Hezekiah above 100 years before ‡. Micah is mentioned as a prophet in the book of Jeremiah and in the New Testament ||. He is imitated by succeeding prophets (N), as he himself had borrowed expressions from his predecessors (O). Our Saviour himself spoke in the language of this prophet (P).

⁷⁵
His style. The style of Micah is for the most part close, forcible, pointed, and concise; sometimes approaching the obscurity of Hosea; in many parts animated and sublime; and in general truly poetical. In his prophecies there is an elegant poem, which Dr Lowth thinks is a citation from the answer of Balaam to the king of the Moabites:

Wherewith shall I come before Jehovah?
Wherewith shall I bow myself unto the High God?
Shall I come before him with burnt-offerings,
With calves of a year old?
Will Jehovah be pleased with thousands of rams?
With ten thousands of rivers of oil?
Shall I give my first-born for my transgression?
The fruit of my body for the sin of my soul?
He hath showed thee, O man, what is good:
And what doth Jehovah require of thee,
But to do justice, and to love mercy,
And to be humble in walking with thy God?

⁷⁶
Of Nahum. Josephus asserts, that Nahum lived in the time of Jotham king of Judah; in which case he may be supposed to have prophesied against Nineveh when Tiglath-Pileser

king of Assyria carried captive the natives of Galilee and other parts about A. M. 3264. It is, however, probable, that his prophecies were delivered in the reign of Hezekiah; for he appears to speak of the taking of No-Ammon a city of Egypt, and of the insolent messengers of Sennacherib, as of things past; and he likewise describes the people of Judah as still in their own country, and desirous of celebrating their festivals.

While Jerusalem was threatened by Sennacherib, Nahum promised deliverance to Hezekiah, and predicted that Judah would soon celebrate her solemn feasts secure from invasion, as her enemy would no more disturb her peace. In the second and third chapters Nahum foretells the downfall of the Assyrian empire and the final destruction of Nineveh, which was probably accomplished by the Medes and Babylonians, whose combined forces overpowered the Assyrians by surprise "while they were folded together as thorns, and while they were drunken as drunkards," when the gates of the river were opened, the palace demolished, and an "over-running flood" assisted the conquerors in their devastation; who took an endless store of spoil of gold and silver, making an utter end of the place of Nineveh, of that vast and populous city, whose walls were 100 feet high, and so broad that three chariots could pass abreast. Yet so completely was this celebrated city destroyed, that even in the 2d century the spot on which it stood could not be ascertained, every vestige of it being gone.

It is impossible to read of the exact accomplishment of the prophetic denunciations against the enemies of the Jews, without reflecting on the astonishing proofs which that nation enjoyed of the divine origin of their religion. From the Babylonish captivity to the time of Christ they had numberless instances of the fulfilment of their prophecies.

The character of Nahum as a writer is thus described by Dr Lowth: "None of the minor prophets seem to equal Nahum in boldness, ardour, and sublimity. His prophecy, too, forms a regular and perfect poem; the exordium is not merely magnificent, it is truly majestic; the preparation for the destruction of Nineveh, and the description of its downfall and desolation, are expressed in the most vivid colours, and are bold and luminous in the highest degree."

As the prophet Habakkuk makes no mention of the ⁷⁷Assyrians, and speaks of the Chaldean invasions as near at hand, he probably lived after the destruction of the Assyrian empire in the fall of Nineveh A. M. 3392, and not long before the devastation of Judea by Nebuchadnezzar. Habakkuk was then nearly contemporary with Jeremiah, and predicted the same events. A general account of Habakkuk's prophecies have already been given under the word HABAKKUK, which may be consulted. We would, however, farther observe, that the prayer in the third chapter is a most beautiful and perfect ode, possessing all the fire of poetry and the profound reverence of religion.

R 2

God

(N) Compare Zephani. iii. 19. with Micah iv. 7. and Ezek. xxii. 27. with Micah iii. 11.

(O) Compare Micah iv. 1-3. and Isaiah ii. 2-4. Micah iv. 13. with Isaiah xli. 15.

(P) Compare Micah vii. 6. with Matt. x. 35, 36.

Scripture. God came from Teman,
 And the Holy One from mount Paran :
 His glory covered the heavens,
 And the earth was full of his praise.
 His brightness was as the light ;
 Beams of glory issued from his side ;
 And there was the hiding of his power.
 Before him went the pestilence ;
 And burning coals went forth at his feet.
 He stood and measured the earth ;
 He beheld and drove asunder the nations ;
 The everlasting mountains were scattered ;
 The perpetual hills did bow.

The prophet illustrates this subject throughout with equal sublimity ; selecting from such an assemblage of miraculous incidents the most noble and important, displaying them in the most splendid colours, and embellishing them with the sublimest imagery, figures, and diction ; the dignity of which is so heightened and recommended by the superior elegance of the conclusion, that were it not for a few shades which the hand of time has apparently cast over it in two or three passages, no composition of the kind would appear more elegant or more perfect than this poem.

Habakkuk is imitated by succeeding prophets, and his words are borrowed by the evangelical writers ||.

Zephaniah, who was contemporary with Jeremiah, prophesied in the reign of Josiah king of Judah ; and from the idolatry which he describes as prevailing at that time, it is probable that his prophecies were delivered before the last reformation made by that pious prince A. M. 3381.

The account which Zephaniah and Jeremiah give of the idolatries of their age is so similar, that St Iliodore asserts, that Zephaniah abridged the descriptions of Jeremiah. But it is more probable that the prophecies of Zephaniah were written some years before those of his contemporary ; for Jeremiah seems to represent the abuses as partly removed which Zephaniah describes as flagrant and excessive (Q).

In the first chapter Zephaniah denounces the wrath of God against the idolaters who worshipped Baal and the host of heaven, and against the violent and deceitful. In the second chapter the prophet threatens destruction to the Philistines, the Moabites, the Ammonites, and Ethiopians ; and describes the fate of Nineveh in emphatic terms : " Flocks shall lie down in the midst of her ; all the beasts of the nations, both the cormorant and bittern, shall lodge in her ; their voice shall sing in the windows ; desolation shall be in the thresholds." In the third chapter the prophet inveighs against the pollutions and oppressions of the Jews ; and concludes with the promise, " That a remnant would be saved, and that multiplied blessings would be bestowed upon the penitent." The style of Zephaniah is poetical, but is not distinguished by any peculiar elegance or beauty, though generally animated and impressive.

79
 Of Haggai. Haggai, the tenth of the minor prophets, was the first who flourished among the Jews after the Babylonish captivity. He began to prophesy in the second

year of Darius Hyftaspes, about 520 years before Scripture. Christ.

The intention of the prophecy of Haggai was to encourage the dispirited Jews to proceed with the building of the temple. The only prediction mentioned refers to the Messiah, whom the prophet assures his countrymen would fill the new temple with glory. So well was this prediction understood by the Jews, that they looked with earnest expectation for the Messiah's appearing in this temple till it was destroyed by the Romans. But as the victorious Messiah, whom they expected, did not then appear, they have since applied the prophecy to a third temple, which they hope to see reared in some future period.

The style of Haggai, in the opinion of Dr Lowth, is prosaic. Dr Newcome thinks that a great part of it is poetical.

180
 Zechariah was undoubtedly a contemporary of Haggai, and began to prophesy two months after him, in the eighth month of the second year of Darius Hyftaspes, A. M. 3484, being commissioned as well as Haggai to exhort the Jews to proceed in the building of the temple after the interruption which the work had suffered. We are informed by Ezra (vi. 14.), that the Jews prospered through the prophesying of Zechariah and Haggai.

Zechariah begins with general exhortations to his countrymen, exciting them to repent from the evil ways of their fathers, whom the prophets had admonished in vain. He describes angels of the Lord interceding for mercy on Jerusalem and the desolate cities of Judah, which had experienced the indignation of the Most High for 70 years while the neighbouring nations were at peace. He declares, that the house of the Lord should be built in Jerusalem, and that Zion should be comforted. The prophet then represents the increase and prosperity of the Jews under several typical figures. He describes the establishment of the Jewish government and the coming of the Messiah. He admonishes those who observed solemn fasts without due contrition, to execute justice, mercy, and compassion, every man to his brother ; not to oppress the widow nor the fatherless, the stranger nor the poor. He promises, that God would again show favour to Jerusalem ; that their mournful fasts should be turned into cheerful feasts ; and that the church of the Lord should be enlarged by the accession of many nations.

The 12th verse of the 11th chapter of this book, which exhibits a prophetic description of some circumstances afterwards fulfilled in our Saviour, appears to be cited by St Matthew (xxvii. 9, 10.) as spoken by Jeremiah ; and as the 11th, 12th, and 13th chapters have been thought to contain some particulars more suitable to the age of Jeremiah than to that of Zechariah, some learned writers are of opinion that they were written by the former prophet, and have been from similarity of subject joined by mistake to those of Zechariah. But others are of opinion, that St Matthew might allude to some traditional prophecy of Jeremiah, or, what is more probable, that the name of Jeremiah was substituted by mistake in place of Zechariah.

The

Scripture. The 12th, 13th, and 14th chapters contain prophecies which refer entirely to the Christian dispensation; the circumstances attending which he describes with a clearness which indicated their near approach.

The style of Zechariah is so similar to that of Jeremiah, that the Jews were accustomed to remark that the spirit of Jeremiah had passed into him. He is generally prosaic till towards the conclusion of his work, when he becomes more elevated and poetical. The whole is beautifully connected by easy transitions, and present and future scenes are blended with the greatest delicacy.

81
Of Malachi. Malachi was the last prophet that flourished under the Jewish dispensation; but neither the time in which he lived, nor any particulars of his history, can now be ascertained. It is even uncertain whether the word *Malachi* be a proper name, or denote, as the Septuagint have rendered it, *his angel* (R), that is, "the angel of the Lord." Origen supposed, that Malachi was an angel incarnate, and not a man. The ancient Hebrews, the Chaldee paraphrast, and St Jerome, are of opinion he was the same person with Ezra: but if this was the case, they ought to have assigned some reason for giving two different names to the same person.

As it appears from the concurring testimony of all the ancient Jewish and Christian writers, that the light of prophecy expired in Malachi, we may suppose that the termination of his ministry coincided with the accomplishment of the first seven weeks of Daniel's prophecy, which was the period appointed for sealing the vision and prophecy. This, according to Prideaux's account, took place in A. M. 3595; but, according to the calculations of Bishop Lloyd, to A. M. 3607, twelve years later. Whatever reckoning we prefer, it must be allowed that Malachi completed the canon of the Old Testament about 400 years before the birth of Christ.

It appears certain that Malachi prophesied under Nehemiah, and after Haggai and Zechariah, at a time when great disorders reigned among the priests and people of Judah, which are reproved by Malachi. He inveighs against the priests (i. 6, &c. ii. 1, 2, &c.); he reproaches the people with having taken strange wives (ii. 11.); he reproves them for their inhumanity towards their brethren (ii. 10. iii. 5.); their too frequently divorcing their wives; their neglect of paying their tithes and first-fruits (Mal. iii. 13.) He seems to allude to the covenant that Nehemiah renewed with the Lord (iii. 10. and ii. 4, 5, &c.), assisted by the priests and the chief of the nation. He speaks of the sacrifice of the new law, and of the abolition of those of the old, in these words (i. 10, 11, 12, 13.): "I have no pleasure in you, saith the Lord of hosts, neither will I accept an offering at your hand. For from the rising of the sun, even unto the going down of the same, my name shall be great among the Gentiles, and in every place incense shall be offered unto my name, and a pure offering: for my name shall be great among the Heathen, saith the Lord of hosts." He declares that the Lord was weary with the impiety of Israel; and assures them, that the Lord whom they sought

should suddenly come to his temple preceded by the messenger of the covenant, who was to prepare his way; that the Lord when he appeared should purify the sons of Levi from their unrighteousness, and refine them as metal from the dross; and that then the offering of Judah, the spiritual sacrifice of the heart, should be pleasant to the Lord. The prophet, like one who was delivering a last message, denounces destruction against the impenitent in emphatic and alarming words. He encourages those who feared the name of the Lord with the animating promise, that the "Sun of righteousness should arise with salvation in his rays," and render them triumphant over the wicked. And now that prophecy was to cease, and miracles were no more to be performed till the coming of the Messiah; now that the Jews were to be left to the guidance of their own reason, and the written instructions of their prophets—Malachi exhorts them to remember the law of Moses, which the Lord had revealed from Horeb for the sake of all Israel. At length he seals up the prophecies of the Old Testament, by predicting the commencement of the new dispensation, which should be ushered in by John the Baptist with the power and spirit of Elijah; who should turn the hearts of fathers and children to repentance; but if his admonitions should be rejected, that the Lord would smite the land with a curse.

82
THE collection of writings composed after the ascension of Christ, and acknowledged by his followers to be divine, is known in general by the name of *καινη διαθηκη*. This title, though neither given by divine command, nor applied to these writings by the apostles, was adopted in a very early age, though the precise time of its introduction is uncertain, it being justified by several passages in Scripture †, and warranted by the authority of St Paul in particular, who calls the sacred books before the time of Christ *παλαια διαθηκη* †. Even long before that period, either the whole of the Old Testament, or the five books of Moses, were entitled *βιβλιον διαθηκης*, or book of the covenant §.

As the word *διαθηκη* admits of a two-fold interpretation, we may translate this title either the *New Covenant* or the *New Testament*. The former translation must be adopted, if respect be had to the texts of Scripture, from which the name is borrowed, since those passages evidently convey the idea of a covenant; and, besides, a being incapable of death can neither have made an old nor make a new testament. It is likewise probable, that the earliest Greek disciples, who made use of this expression, had no other notion in view than that of covenant. We, on the contrary, are accustomed to give this sacred collection the name of *Testament*; and since it would be not only improper, but even absurd, to speak of the Testament of God, we commonly understand the Testament of Christ; an explanation which removes but half the difficulty, since the new only, and not the old, had Christ for its testator.

84
In stating the evidence for the truth of Christianity, there is nothing more worthy of consideration than the authenticity of the books of the New Testament. This is the foundation on which all other arguments rest; and the importance of the argument from the authenticity of the books.

Scripture. and if it is solid, the Christian religion is fully established. The proofs for the authenticity of the New Testament have this peculiar advantage, that they are plain and simple, and involve no metaphysical subtleties.—Every man who can distinguish truth from falsehood must see their force; and if there are any so blinded by prejudice, or corrupted by licentiousness, as to attempt by sophistry to elude them, their sophistry will be easily detected by every man of common understanding, who has read the historical evidence with candour and attention. Instead, therefore, of declaiming against the infidel, we solicit his attention to this subject, convinced, that where truth resides, it will shine with so constant and clear a light, that the combined ingenuity of all the deists since the beginning of the world will never be able to extinguish or to obscure it. If the books of the New Testament are really genuine, opposition will incite the Christian to bring forward the evidence; and thus by the united efforts of the deist and the Christian, the arguments will be stated with all the clearness and accuracy of which they are susceptible in so remarkable a degree.

It is surprising that the adversaries of Christianity have not always made their first attacks in this quarter; for if they admit that the writings of the New Testament are as ancient as we affirm, and composed by the persons to whom they are ascribed, they must allow, if they reason fairly, that the Christian religion is true.

The apostles allude frequently in their epistles to the gift of miracles, which they had communicated to the Christian converts by the imposition of hands, in confirmation of the doctrine delivered in their speeches and writings, and sometimes to miracles which they themselves had performed. Now if these epistles are really genuine, it is hardly possible to deny those miracles to be true. The case is here entirely different from that of an historian, who relates extraordinary events in the course of his narrative, since either credulity or an actual intention to deceive may induce him to describe as true a series of falsehoods respecting a foreign land or distant period. Even to the Evangelists might an adversary of the Christian religion make this objection: but to write to persons with whom we stand in the nearest connection, "I have not only performed miracles in your presence, but have likewise communicated to you the same extraordinary endowments," to write in this manner, if nothing of the kind had ever happened, would require such an incredible degree of effrontery, that he who possessed it would not only expose himself to the utmost ridicule, but by giving his adversaries the fairest opportunity to detect his imposture, would ruin the cause which he attempted to support.

St Paul's First Epistle to the Thessalonians is addressed to a community to which he had preached the gospel only three Sabbath days, when he was forced to quit it by the persecution of the populace. In this epistle he appeals to the miracles which he had performed, and to the gifts of the Holy Spirit which he had communicated. Now, is it possible, without forfeiting all pretensions to common sense, that, in writing to a community which he had lately established, he could speak of miracles performed, and gifts of the Holy

Scripture. Ghost communicated, if no member of the society had seen the one, or received the other?

To suppose that an impostor could write to the converts or adversaries of the new religion such epistles as these, with a degree of triumph over his opponents, and yet maintain his authority, implies ignorance and stupidity hardly to be believed. Credulous as the Christians have been in later ages, and even so early as the third century, no less severe were they in their inquiries, and guarded against deception, at the introduction of Christianity. This character is given them even by Lucian, a writer of the second century, who vented his satire not only against certain Christians*, who had supplied Peregrinus with the means of subsistence, but also against heathen oracles and pretended wonders. He relates of his impostor (Pseudomantis), that he attempted nothing supernatural in the presence of the Christians and Epicureans. This Pseudomantis exclaims before the whole assembly, "Away with the Christians, away with the Epicureans, and let those only remain who believe in the Deity!" (*οἱ θεοφοβῆτες τῶ θεοῦ*) upon which the populace took up stones to drive away the suspicious; while the other philosophers, Pythagoreans, Platonists, and Stoics, as credulous friends and protectors of the cause, were permitted to remain §.

It is readily acknowledged, that the arguments drawn from the authenticity of the New Testament only establish the truth of the miracles performed by the apostles, and are not applicable to the miracles of our Saviour; yet, if we admit the three first gospels to be genuine, the truth of the Christian religion will be proved from the prophecies of Jesus. For if these gospels were composed by Matthew, Mark, and Luke, at the time in which all the primitive Christians affirm, that is, previous to the destruction of Jerusalem, they must be inspired; for they contain a circumstantial prophecy of the destruction of Jerusalem, and determine the period at which it was accomplished. Now it was impossible that human sagacity could foresee that event; for when it was predicted nothing was more improbable. The Jews were resolved to avoid an open rebellion, well knowing the greatness of their danger, and submitted to the oppressions of their governors in the hope of obtaining redress from the court of Rome.—The circumstance which gave birth to these misfortunes is so trifling in itself, that, independent of its consequences, it would not deserve to be recorded. In the narrow entrance to a synagogue in Cæsarea, some person had made an offering of birds merely with a view to irritate the Jews. The insult excited their indignation, and occasioned the shedding of blood. Without this trifling accident, which no human wisdom could foresee even the day before it happened, it is possible that the prophecy of Jesus would never have been fulfilled. But Florus, who was then procurator of Judea, converted this private quarrel into public hostilities, and compelled the Jewish nation to rebel contrary to its wish and resolution, in order to avoid what the Jews had threatened, an impeachment before the Roman emperor for his excessive cruelties. But even after this rebellion had broken out, the destruction of the temple was a very improbable event. It was not the practice of the Romans to destroy the magnificent edifices

*Michaelis's
Introduction
to the New
Testament.*

*De morte
Peregrini,
§ 12, 13, 16.
Ed. Reitz,
Tom. iii. p.
314—338.*

*§ Alexander
seu Pseudo-
mantis, § 25.
38. Tom. ii.
p. 232, 233;
244, 245.*

Scripture. edifices of the nations which they subdued; and of all the Roman generals, none was more unlikely to demolish so ancient and august a building as Titus Vespasian.

So important then is the question, Whether the books of the New Testament be genuine? that the arguments which prove their authenticity, prove also the truth of the Christian religion. Let us now consider the evidence which proves the authenticity of the New Testament.

85
Their authenticity proved.

We receive the books of the New Testament as the genuine works of Matthew, Mark, Luke, John, and Paul, for the same reason that we receive the writings of Xenophon, of Polybius, of Plutarch, of Cæsar, and of Livy. We have the uninterrupted testimony of all ages, and we have no reason to suspect imposition. This argument is much stronger when applied to the books of the New Testament than when applied to any other writings; for they were addressed to large societies, were often read in their presence, and acknowledged by them to be the writings of the apostles.—Whereas, the most eminent profane writings which still remain were addressed only to individuals, or to no persons at all: and we have no authority to affirm that they were read in public; on the contrary, we know that a liberal education was uncommon; books were scarce, and the knowledge of them was confined to a few individuals in every nation.

The New Testament was read over three quarters of the world, while profane writers were limited to one nation or to one country. An uninterrupted succession of writers from the apostolic ages to the present time quote the sacred writings, or make allusions to them: and these quotations and allusions are made not only by friends but by enemies. This cannot be asserted of even the best classic authors. And it is highly probable, that the translations of the New Testament were made so early as the second century; and in a century or two after, they became very numerous. After this period, it was impossible to forge new writings, or to corrupt the sacred text, unless we can suppose that men of different nations, of different sentiments and different languages, and often exceedingly hostile to one another, should all agree in one forgery. This argument is so strong, that if we deny the authenticity of the New Testament, we may with a thousand times more propriety reject all the other writings in the world: we may even throw aside human testimony itself. But as this subject is of great importance, we shall consider it at more length; and to enable our readers to judge with the greater accuracy, we shall state, from the valuable work of Michaelis, as translated by the judicious and learned Mr Marsh, the reasons which may induce a critic to suspect a work to be spurious.

86
Negatively
87
The reasons that would prove a book to be spurious

1. When doubts have been made from its first appearance in the world, whether it proceeded from the author to whom it is ascribed. 2. When the immediate friends of the pretended author, who were able to decide upon the subject, have denied it to be his production. 3. When a long series of years has elapsed after his death, in which the book was unknown, and in which it must unavoidably have been mentioned and quoted, had it really existed. 4. When the style is different from that of his other writings, or, in case no other remain, different from that which might reason-

ably be expected. 5. When events are recorded which happen later than the time of the pretended author. 6. When opinions are advanced which contradict those he is known to maintain in his other writings. Though this latter argument alone leads to no positive conclusion, since every man is liable to change his opinion, or through forgetfulness to vary in the circumstances of the same relation, of which Josephus, in his Antiquities and War of the Jews, affords a striking example.

1. But it cannot be shown that any one doubted of its authenticity in the period in which it first appeared. 2. No ancient accounts are on record whence we may conclude it to be spurious. 3. No considerable period elapsed after the death of the apostles, in which the New Testament was unknown; but, on the contrary, it is mentioned by their very contemporaries, and the accounts of it in the second century are still more numerous. 4. No argument can be brought in its disfavour from the nature of the style, it being exactly such as might be expected from the apostles, not Attic but Jewish Greek. 5. No facts are recorded which happened after their death. 6. No doctrines are maintained which contradict the known tenets of the authors, since, beside the New Testament, no writings of the apostles exist. But, to the honour of the New Testament be it spoken, it contains numerous contradictions to the tenets and doctrines of the fathers in the second and third century, whose morality was different from that of the gospel, which recommends fortitude and submission to unavoidable evils, but not that enthusiastic ardour for martyrdom for which those centuries are distinguished; it alludes to ceremonies which in the following ages were either in disuse or totally unknown: all which circumstances infallibly demonstrate that the New Testament is not a production of either of those centuries.

We shall now consider the positive evidence for the authenticity of the New Testament. These may be arranged under the three following heads;

1. The impossibility of a forgery, arising from the nature of the thing itself. 2. The ancient Christian, Jewish, and Heathen testimony in its favour. 3. Its own internal evidence.

1. The impossibility of a forgery arising from the nature of the thing itself is evident. It is impossible to establish forged writings as authentic in any place where there are persons strongly inclined and well qualified to detect the fraud. Now the Jews were the most violent enemies of Christianity. They put the founder of it to death; they persecuted his disciples with implacable fury; and they were anxious to stifle the new religion in its birth. If the writings of the New Testament had been forged, would not the Jews have detected the imposture? Is there a single instance on record where a few individuals have imposed a history upon the world against the testimony of a whole nation? Would the inhabitants of Palestine have received the gospels, if they had not had sufficient evidence that Jesus Christ really appeared among them, and performed the miracles ascribed to him? Or would the churches of Rome or of Corinth have acknowledged the epistles addressed to them as the genuine works of Paul, if Paul had never preached among them? We might as well think to prove, that the history of the Reformation is the invention

88
Do not apply to the New Testament.

89
Positively,

90
Impossibility of a forgery arising from the nature of the thing.

Scripture. vention of historians; and that no revolution happened in Great Britain during the last century.

91
From testi-
mony.

2. The second kind of evidence which we produce to prove the authenticity of the New Testament, is the testimony of ancient writers, Christians, Jews, and Heathens.

In reviewing the evidence of testimony, it will not be expected that we should begin at the present age, and trace backwards the authors who have written on this subject to the first ages of Christianity. This indeed, though a laborious task, could be performed in the most complete manner; the whole series of authors, numerous in every age, who have quoted from the books of the New Testament, written commentaries upon them, translated them into different languages, or who have drawn up a list of them, could be exhibited so as to form such a perfect body of evidence, that we imagine even a jury of deists would find it impossible, upon a deliberate and candid examination, to reject or disbelieve it. We do not, however, suppose that scepticism has yet arrived at so great a height as to render such a tedious and circumstantial evidence necessary. Passing over the intermediate space, therefore, we shall ascend at once to the fourth century, when the evidence for the authenticity of the New Testament was fully established, and trace it back from that period to the age of the apostles. We hope that this method of stating the evidence will appear more natural, and will afford more satisfaction, than that which has been usually adopted.

It is surely more natural, when we investigate the truth of any fact which depends on a series of testimony, to begin with those witnesses who lived nearest the present age, and whose characters are best established. In this way we shall learn from themselves the foundation of their belief, and the characters of those from whom they derived it; and thus we ascend till we arrive at its origin. This mode of investigation will give more satisfaction to the deist than the usual way; and we believe no Christian, who is confident of the goodness of his cause, will be unwilling to grant any proper concessions. The deist will thus have an opportunity of examining, separately, what he will consider as the weakest parts of the evidence, those which are exhibited by the earliest Christian writers, consisting of expressions, and not quotations, taken from the New Testament. The Christian, on the other hand, ought to wish, that these apparently weak parts of the evidence were distinctly examined, for they will afford an irrefragable proof that the New Testament was not forged: and should the deist reject the evidence of those early writers, it will be incumbent on him to account for the origin of the Christian religion, which he will find more difficult than to admit the common hypothesis.

In the fourth century we could produce the testimonies of numerous witnesses to prove that the books of the New Testament existed at that time; but it will be sufficient to mention their names, the time in which they wrote, and the substance of their evidence. This we shall present in a concise form in the following table, which is taken from Jones's New and Full Method of establishing the canon of the New Testament.

The Names of the Writers.	The times in which they lived.	The variation or agreement of their catalogues with ours now received.	The books in which these catalogues are.	Scripture.
I. Athanasius bishop of Alexandria.	A. C. 315.	The same perfectly with ours now received.	Fragment. Epist. Testal. tom. 2. & in Synops. tom. 1.	
II. Cyril bishop of Jerusalem.	340.	The same with ours, only the Revelation is omitted.	Catech. IV. § ult. p. 101.	
III. The bishops assembled in the council of Laodicea.	364.	The Revelation is omitted.	Canon. LIX. N. B. The Canons of this council were not long afterwards received into the body of the canons of the universal church.	
IV. Epiphanius bishop of Salamis in Cyprus.	370.	The same with ours now received.	Hæres. 76. cont. Anom. p. 399.	
V. Gregory Nazianzen bishop of Constantinople.	375.	Omits the Revelation.	Carm. de veris & genuin. Scriptur.	
VI. Philastrius bishop of Brixia in Venice.	380.	The same with ours now received; except that he mentions only 13 of St Paul's epistles (omitting very probably the Epistle to the Hebrews), and leaves out the Revelations.	Lib. de Hæres. Numb. 87.	
VII. Jerome.	382.	The same with ours; except that he speaks dubiously of the Epistle to the Hebrews; tho' in other parts of his writings he receives it as canonical.	Ep. ad Paulin. 83. Tract. 6. p. 2. Also commonly prefixed to the Latin vulgar.	
VIII. Ruffin presbyter of Aquilegium.	390.	It perfectly agrees with ours.	Expos. in Symb. Apostol. § 36. int. Ep. Hieron. Par. 1. Trac. 3. p. 110. & inter Op. Cypr. p. 575.	
IX. Austin bishop of Hippo in Africa.	394.	It perfectly agrees with ours.	De Doctrin. Christ. l. 2. c. 8. Tom. Op. 3. p. 25.	
X. The XLIV bishops assembled in the third council of Carthage.	St Austin was present at it.	It perfectly agrees with ours.	Vid. Canon. XLVII. & cap. ult.	

Scripture.

92
Testimo-
nies of the
ancient
Christians.

We now go back to Eusebius, who wrote about the year 315, and whose catalogue of the books of the New Testament we shall mention at more length. "Let us observe (says he) the writings of the apostle John, which are *uncontradicted*; and, first of all, must be mentioned, as acknowledged of all, the gospel, according to him, well known to all the churches under heaven."

Paley's E-
vidences of
Christianity.

The author then proceeds to relate the occasions of writing the gospels, and the reasons for placing St John's the last, manifestly speaking of all the four as equal in their authority, and in the certainty of their original. The second passage is taken from a chapter, the title of which is, "Of the Scriptures universally acknowledged, and of those that are not such."

93
Of Euse-
bius.

Eusebius begins his enumeration in the following manner: "In the first place, are to be ranked the sacred four Gospels, then the book of the Acts of the Apostles; after that are to be reckoned the Epistles of Paul: in the next place, that called the first Epistle of John and the Epistle of Peter are to be esteemed authentic: after this is to be placed, if it be thought fit, the Revelation of John; about which we shall observe the different opinions at proper seasons. Of the controverted, but yet well known or approved by the most, are that called the Epistle of James and that of Jude, the second of Peter, and the second and third of John, whether they were written by the evangelist or by another of the same name." He then proceeds to reckon up five others, not in our canon, which he calls in one place *spurious*, in another *controverted*; evidently meaning the same thing by these two words (s).

94
Of Victorin.

A. D. 290, Victorin bishop of Pettaw in Germany, in a commentary upon this text of the Revelation, "The first was like a lion, the second was like a calf, the third like a man, and the fourth like a flying eagle," makes out, that by the four creatures are intended the four gospels; and to show the propriety of the symbols, he recites the subject with which each evangelist opens his history. The explication is fanciful, but the testimony positive. He also expressly cites the Acts of the Apostles.

95
Of Cyprian.

A. D. 230, Cyprian bishop of Carthage gives the following testimony: "The church (says this father) is watered like Paradise by four rivers, that is, by four gospels." The Acts of the Apostles are also frequently quoted by Cyprian under that name, and under the name of the *Divine Scriptures*. In his various writings are such frequent and copious citations of Scripture, as to place this part of the testimony beyond controversy. Nor is there, in the works of this eminent African bishop, one quotation of a spurious or apocryphal Christian writing.

96
Of Origen.

A. D. 210, Origen is a most important evidence. Nothing can be more peremptory upon the subject now under consideration, and, from a writer of his learning and information, nothing more satisfactory, than the declaration of Origen, preserved in an extract of his works by Eusebius: "That the four gospels alone are received without dispute by the whole church of God under heaven:" to which declaration is immediately subjoined

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a brief history of the respective authors, to whom they were then, as they are now, ascribed. The sentiments expressed concerning the gospels in all the works of Origen which remain, entirely correspond with the testimony here cited. His attestation to the Acts of the Apostles is no less positive: "And Luke also once more sounds the trumpet relating the Acts of the Apostles." That the Scriptures were then universally read, is plainly affirmed by this writer in a passage in which he is repelling the objections of Celsus, "That it is not in private books, or such as are read by few only, and those studious persons, but in books read by every body, that it is written, the invisible things of God from the creation of the world are clearly seen, being understood by things that are made." It is to no purpose to single out quotations of Scripture from such a writer as this. We might as well make a selection of the quotations of Scripture in Dr Clarke's sermons. They are so thickly sown in the works of Origen, that Dr Mill says, "If we had all his works remaining, we should have before us almost the whole text of the Bible."

A. D. 194, Tertullian exhibits the number of the gospels then received, the names of the evangelists, and their proper designations, in one short sentence. —

"Among the apostles, John and Matthew teach us the faith; among apostolical men, Luke and Mark refresh it." The next passage to be taken from Tertullian affords as complete an attestation to the authenticity of the gospels as can be well imagined. After enumerating the churches which had been founded by Paul at Corinth, in Galatia, at Philippi, Thessalonica, and Ephesus, the church of Rome established by Peter and Paul, and other churches derived from John, he proceeds thus: "I say then, that with them, but not with them only which are apostolical, but with all who have fellowship with them in the same faith, is that gospel of Luke received from its first publication, which we so zealously maintain;" and presently afterwards adds, "The same authority of the apostolical churches will support the other gospels, which we have from them, and according to them, I mean John's and Matthew's, although that likewise which Mark published may be said to be Peter's, whose interpreter Mark was." In another place Tertullian affirms, that the three other gospels, as well as St Luke's, were in the hands of the churches from the beginning. This noble testimony proves incontestably the antiquity of the gospels, and that they were universally received; that they were in the hands of all, and had been so from the first. And this evidence appears not more than 150 years after the publication of the books. Dr Lardner observes, "that there are more and larger quotations of the small volume of the New Testament in this one Christian author, than there are of all the works of Cicero, in writers of all characters, for several ages."

A. D. 178, Irenæus was bishop of Lyons, and is mentioned by Tertullian, Eusebius, Jerome, and Photius. In his youth he had been a disciple of Polycarp, who was a disciple of John. He asserts of himself and his contemporaries, that they were able to rec-

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(s) That Eusebius could not intend, by the word rendered *spurious*, what we at present mean by it, is evident from a clause in this very chapter, where, speaking of the Gospels of Peter and Thomas, and Matthias and some others, he says, "They are not so much as to be reckoned among the *spurious*, but are to be rejected as altogether absurd and impious." *Lard. Cred.* vol. viii. p. 98.

Scripture. kon up in all the principal churches the succession of bishops to their first institution. His testimony to the four gospels and Acts of the Apostles is express and positive. "We have not received," says Irenæus, "the knowledge of the way of our salvation by any others than those by whom the gospel has been brought to us. Which gospel they first preached, and afterwards, by the will of God, committed to writing, that it might be for time to come the foundation and pillar of our faith. For after that our Lord rose from the dead, and they (the apostles) were endowed from above with the power of the Holy Ghost coming down upon them, they received a perfect knowledge of all things. They then went forth to all the ends of the earth, declaring to men the blessing of heavenly peace, having all of them, and every one alike, the gospel of God. Matthew then, among the Jews, wrote a gospel in their own language, while Peter and Paul were preaching the gospel at Rome, and founding a church there. And after their exit, Mark also, the disciple and interpreter of Peter, delivered to us in writing the things that had been preached by Peter. And Luke, the companion of Paul, put down in a book the gospel preached by him (Paul). Afterwards John, the disciple of the Lord, who also leaned upon his breast, likewise published a gospel while he dwelt at Ephesus in Asia." Irenæus then relates how Matthew begins his gospel, how Mark begins and ends his, and gives the supposed reasons for doing so. He enumerates at length all the passages of Christ's history in Luke, which are not found in any of the other evangelists. He states the particular design with which St John composed his gospel, and accounts for the doctrinal declarations which precede the narrative. If any modern divine should write a book upon the genuineness of the gospels, he could not assert it more expressly, or state their original more distinctly, than Irenæus hath done within little more than 100 years after they were published.

Respecting the book of the Acts of the Apostles, and its author, the testimony of Irenæus is no less explicit. Referring to the account of St Paul's conversion and vocation, in the ninth chapter of that book, "Nor can they (says he, meaning the parties with whom he argues show) that he is not to be credited, who has related to us the truth with the greatest exactness." In another place, he has actually collected the several texts, in which the writer of the history is represented as accompanying St Paul, which led him to exhibit a summary of almost the whole of the last twelve chapters of the book.

According to Lardner, Irenæus quotes twelve of Paul's epistles, naming their author; also the first epistle of Peter, the two first epistles of John, and the Revelation. The epistles of Paul which he omits are those addressed to Philemon and the Hebrews. Eusebius says, that he quotes the epistle to the Hebrews, though he does not ascribe it to Paul. The work, however, is lost.

⁹⁹
Of Tatian. A. D. 172, Tatian, who is spoken of by Clemens Alexandrinus, Origen, Eusebius, and Jerome, composed a harmony of the four gospels, which he called *Diateffaron* of the four. This title, as well as the work, is remarkable, because it shows that then as well as now there were four, and only four, gospels in general use among Christians.

A. D. 170, the churches of Lyons and Vienne in

France sent an account of the sufferings of their martyrs to the churches of Asia and Phrygia, which has been preserved entire by Eusebius. And what carries in some measure the testimony of these churches to a higher age is, that they had now for their bishop Pothinus, who was 90 years old, and whose early life consequently must have immediately followed the times of the apostles. In this epistle are exact references to the gospels of Luke and John, and to the Acts of the Apostles. The form of reference is the same as in all the preceding articles. That from St John is in these words: "Then was fulfilled that which was spoken by the Lord, that whosoever killeth you, will think that he doth God service*." **Scripture.**

Distinct references are also made to other books, viz. Acts, Romans, Ephesians, Philippians, 1. Timothy, 1 Peter, 1 John, Revelation. ^{* John xvi. 2.}

A. D. 140, Justin Martyr composed several books, which are mentioned by his disciple Tatian, by Tertullian, Methodius, Eusebius, Jerome, Epiphanius, and Photius. In his writings between 20 and 30 quotations from the gospels and Acts of the Apostles are reckoned up, which are clear, distinct, and copious; if each verse be counted separately, a much greater number; if each expression, still more. Jones, in his book on the Canon of the New Testament, ventures to affirm that he cites the books of which it consists, particularly the four gospels, above 200 times. ¹⁰⁰
Of Justin Martyr.

We meet with quotations of three of the gospels within the compass of half a page; "and in other words, he says, Depart from me into outer darkness, which the Father hath prepared for Satan and his Angels," (which is from Matthew xxv. 41.) "And again he said in other words, I give unto you power to tread upon serpents and scorpions, and venomous beasts, and upon all the power of the enemy." (This from Luke x. 19.) "And, before he was crucified, he said, The son of man must suffer many things, and be rejected of the Scribes and Pharisees, and be crucified, and rise again the third day; (this from Mark viii. 31.)

All the references in Justin are made without mentioning the author; which proves that these books were perfectly well known, and that there were no other accounts of Christ then extant, or, at least, no others so received and credited as to make it necessary to add any marks of distinction. But although Justin mentions not the authors names, he calls the books *Memoirs composed by the Apostles; Memoirs composed by the Apostles and their Companions*; which descriptions, the latter especially, exactly suit the titles which the Gospels and Acts of the Apostles now bear.

He informs us, in his first apology, that *the memoirs of the Apostles*, or the writings of the prophets, are read according as the time allows; and, when the reader has ended, the president makes a discourse, exhorting to the imitation of such excellent things.

A few short observations will show the value of this testimony. 1. The *Memoirs of the Apostles*, Justin in another place expressly tells us are what are called *gospels*. And that they were the gospels which we now use is made certain by Justin's numerous quotations of them, and his silence about any others. 2. He describes the general usage of the Christian church. 3. He does not speak of it as recent or newly instituted, but in the terms in which men speak of established customs.

Scripture.

Justin also makes such allusions to the following books as shows that he had read them: Romans, 1 Corinthians, Galatians, Ephesians, Philippians, Colossians, 2 Thessalonians, Hebrews, 2 Peter; and he ascribes the Revelation to John the Apostle of Christ.

101
Of Papias.

A. D. 116, Papias, a hearer of John, and companion of Polycarp, as Irenæus attests, and of the apostolical age as all agree, in a passage quoted by Eusebius, from a work now lost, expressly ascribes the two first gospels to Matthew and Mark; and in a manner which proves that these gospels must have publicly borne the names of these authors at that time, and probably long before; for Papias does not say, that one gospel was written by Matthew, and another by Mark; but, assuming this as perfectly well known, he tells us from what materials Mark collected his account, viz. from Peter's preaching, and in what language Matthew wrote, viz. in Hebrew. Whether Papias was well informed in this statement or not, to the point for which this testimony is produced, namely, that these books bore these names at this time, his authority is complete.

Papias himself declares that he received his accounts of Christianity from those who were acquainted with the apostles, and that those accounts which he thus received from the older Christians, and had committed to memory, he inserted in his books. He farther adds, that he was very solicitous to obtain every possible information, especially to learn what the apostles said and preached, valuing such information more than what was written in books*.

• Prefat.
in Op. apud
Euseb. Hist.
Eccl. l. iii.
c. 39.
102
Of Polycarp.

A. D. 108, Polycarp was the bishop of Smyrna, and disciple of John the Apostle. This testimony concerning Polycarp is given by Irenæus, who in his youth had seen him. "I can tell the place," saith Irenæus, "in which the blessed Polycarp sat and taught, and his going out and coming in, and the manner of his life, and the form of his person, and the discourses he made to the people, and how he related his conversation with John and others who had seen the Lord, and how he related their sayings, and what he had heard concerning the Lord, both concerning his miracles and his doctrine, as he had received them from the eye-witnesses of the word of life; all which Polycarp related agreeable to the scriptures."

Of Polycarp, whose proximity to the age and country and persons of the apostles is thus attested, we have one undoubted epistle remaining; which, though a short performance, contains nearly 40 clear allusions to the books of the New Testament. This is strong evidence of the respect which was paid to them by Christians of that age. Amongst these, although the writings of St Paul are more frequently used by Polycarp than other parts of scripture, there are copious allusions to the gospel of St Matthew, some to passages found in the gospels both of Matthew and Luke, and some which more nearly resemble the words in Luke.

He thus fixes the authority of the Lord's Prayer, and the use of it among Christians. If, therefore, we pray the Lord to forgive us, we ought also to forgive. And again, With supplication beseeching the all-seeing God not to lead us into temptation.

In another place, he quotes the words of our Lord: "But remembering what the Lord said, teaching, Judge not, that ye be not judged. Forgive, and ye shall be forgiven; be ye merciful, that ye may obtain mercy; with what measure ye mete, it shall be measured

to you again*. Supposing Polycarp to have had these words from the books in which we now find them, it is manifest that these books were considered by him, and by his readers, as he thought, as authentic accounts of Christ's discourses; and that this point was incontestable.

Scripture.

* Matt.
viii. 1. i. 2.
v. 7.

He quotes also the following books, the first of which he ascribes to St Paul: 1 Corinthians, Ephesians, Philippians, 1 and 2 Thessalonians; and makes evident references to others, particularly to Acts, Romans, 2 Corinthians, Galatians, 1 Timothy, 2 Timothy, 1 Peter, 1 John.

Ignatius, as it is testified by ancient Christian writers, became bishop of Antioch about 37 years after Christ's ascension; and therefore, from his time, and place, and station, it is probable that he had known and conversed with many of the apostles. Epistles of Ignatius are referred to by Polycarp his contemporary. Passages, found in the epistles now extant under his name, are quoted by Irenæus, A. D. 178, by Origen, A. D. 230; and the occasion of writing them is fully explained by Eusebius and Jerome. What are called the smaller epistles of Ignatius are generally reckoned the same which were read by Irenæus, Origen, and Eusebius.

103

Of Ignatius.

They are admitted as genuine by Vossius, and have been proved to be so by bishop Pearson with a force of argument which seems to admit of no reply. In these epistles are undoubted allusions to Matt. iii. 15. xi. 16. to John iii. 8.; and their venerable author, who often speaks of St Paul in terms of the highest respect, once quotes his epistle to the Ephesians by name.

Near the conclusion of the epistle to the Romans, St Paul, amongst others, sends the following salutation:

104

Of Hermas.

"Salute Asyncritus, Phlegon, Hermas, Patrobus, Hermes, and the brethren which are with them." Of Hermas, who appears in this catalogue of Roman Christians as contemporary with St Paul, there is a book still remaining, the authenticity of which cannot be disputed. It is called the *Shepherd*, or *Pastor of Hermas*. Its antiquity is incontestable, from the quotations of it in Irenæus, A. D. 178, Clement of Alexandria, A. D. 194, Tertullian, A. D. 200, Origen, A. D. 230. The notes of time extant in the epistle itself agree with its title, and with the testimonies concerning it, which intimate that it was written during the lifetime of Clement. In this piece are tacit allusions to St Matthew's, St Luke's, and St John's gospels; that is to say, there are applications of thoughts and expressions found in these gospels, without citing the place or writer from which they were taken. In this form appear in Hermas the confessing and denying of Christ; the parable of the seed sown; the comparison of Christ's disciples to little children; the saying, "he putteth away his wife, and marrieth another, committeth adultery"; the singular expression, "having received all power from his Father," is probably an allusion to Matthew xxviii. 18. and Christ being the "gate," or only way of coming "to God," is a plain allusion to John xiv. 6. x. 7, 9. There is also a probable allusion to Acts v. 32.

† Matt. x.
32, 33. or
Luke xii.
8, 9.

† Matt.
xiii. 3. or
Luke

viii. 5.

§ Luke
xvi. 18.

The Shepherd of Hermas has been considered as a fanciful performance. This, however, is of no importance in the present case. We only adduce it as evidence that the books to which it frequently alludes existed in the first century; and for this purpose it is satisfactory,

Scripture. factory, as its authenticity has never been questioned. However absurd opinions a man may entertain while he retains his understanding, his testimony to a matter of fact will still be received in any court of justice.

105
Of Clement's Romanus.

A. D. 96, we are in possession of an epistle written by Clement bishop of Rome, whom ancient writers, without any doubt or scruple, assert to have been the Clement whom St Paul mentions Philippians iv. 3. "with Clement also, and other my fellow labourers, whose names are in the book of life." This epistle is spoken of by the ancients as an epistle acknowledged by all; and, as Irenæus well represents its value, "written by Clement, who had seen the blessed apostles and conversed with them, who had the preaching of the apostles still sounding in his ears, and their traditions before his eyes." It is addressed to the church of Corinth; and what alone may seem a decisive proof of its authenticity, Dionysius bishop of Corinth, about the year 170, *i. e.* about 80 or 90 years after the epistle was written, bears witness, "that it had been usually read in that church from ancient times." This epistle affords, amongst others, the following valuable passages: "Especially remembering the words of the Lord Jesus, which he spake, teaching gentleness and long suffering; for thus he said (τ), Be ye merciful, that ye may obtain mercy; forgive, that it may be forgiven unto you; as you do, so shall it be done unto you; as you give, so shall it be given unto you; as ye judge, so shall ye be judged; as ye shew kindness, so shall kindness be shewn unto you; with what measure ye mete, with the same it shall be measured to you. By this command, and by these rules, let us establish ourselves, that we may always walk obediently to his holy words."

Again, "Remember the words of the Lord Jesus, for he said, Wo to that man by whom offences come; it were better for him that he had not been born, than that he should offend one of my elect; it were better for him that a millstone should be tied about his neck, and that he should be drowned in the sea, than that he should offend one of my little ones (υ)."

He ascribes the first epistle to the Corinthians to Paul, and makes such allusions to the following books as is sufficient to shew that he had seen and read them: Acts, Romans, 2 Corinthians, Galatians, Ephesians, Philippians, Colossians, 1 Thessalonians, 1 Timothy, 2 Timothy, Titus, 1 Peter, 2 Peter.

It may be said, as Clement has not mentioned the books by name from which we assert these allusions or references are made, it is uncertain whether he refers to any books, or whether he received these expressions from the discourses and conversation of the apostles. Mr Paley has given a very satisfactory answer to this objection: 1st, That Clement, in the very same manner, namely, without any mark of reference, uses a passage now found in the epistle to the Romans*; which passage, from the peculiarity of the words that compose it, and from their order, it is manifest that he must have taken

from the epistle. The same remark may be applied to some very singular sentiments in the epistle to the Hebrews. Secondly, That there are many sentences of St Paul's first epistle to the Corinthians to be found in Clement's epistle, without any sign of quotation, which yet certainly are quotations; because it appears that Clement had St Paul's epistle before him; for in one place he mentions it in terms too express to leave us in any doubt. "Take into your hands the epistle of the blessed apostle Paul." Thirdly, That this method of adopting words of scripture, without reference or acknowledgment, was a method in general use amongst the most ancient Christian writers. These analogies not only repel the objection, but cast the presumption on the other side; and afford a considerable degree of positive proof, that the words in question have been borrowed from the places of scripture in which we now find them. But take it, if you will, the other way, that Clement had heard these words from the apostles or first teachers of Christianity; with respect to the precise point of our argument, viz. that the scriptures contain what the apostles taught, this supposition may serve almost as well.

We have now traced the evidence to the times of the apostles; but we have not been anxious to draw it out to a great length, by introducing every thing. On the contrary, we have been careful to render it as concise as possible, that its force might be discerned at a glance. The evidence which has been stated is of two kinds. Till the time of Justin Martyr and Irenæus it consists chiefly of allusions, references, and expressions, borrowed from the books of the New Testament, without mentioning them by name. After the time of Irenæus it became usual to cite the sacred books, and mention the authors from whom the citations were taken.

The first species of evidence will perhaps appear to some exceptionable; but it must be remembered that it was usual among the ancient Christians as well as Jews to adopt the expressions of Scripture without naming the authors. Why they did so it is not necessary to inquire. The only point of importance to be determined is, whether those references are a sufficient proof of the existence of the books to which they allude? This, we presume, will not be denied; especially in the present age, when it is so common to charge an author with plagiarism if he happen to fall upon the same train of ideas, or express himself in a similar manner with authors who have written before him. We may farther affirm, that these tacit references afford a complete proof that those ancient writers had no intention of imposing a forgery upon the world. They prove the existence of the Christian religion and of the apostolical writings, without showing any suspicious earnestness that men should believe them. Had these books been forged, those who wished to pass them upon the world would have been at more pains than the first Christians were to prove their authenticity. They acted the part of honest

106

* Chap.
i. 29.

(τ) "Blessed are the merciful, for they shall obtain mercy," Matt. v. 7. "Forgive, and ye shall be forgiven; give, and it shall be given unto you," Luke vi. 37, 38. "Judge not, that ye be not judged; for with what judgment ye judge, ye shall be judged, and with what measure ye mete, it shall be measured to you again," Mat. vii. 2.

(υ) Matt. xviii. 6. "But whoso shall offend one of these little ones which believe in me, it were better for him that a millstone were hanged about his neck, and that he were cast into the sea." The latter part of the passage in Clement agrees more exactly with Luke xvii. 2. "It were better for him that a millstone were hanged about his neck, and he cast into the sea, than that he should offend one of these little ones."

Scripture. honest men; they believed them themselves, and they never imagined that others would suspect their truth.

It is a consideration of great importance, in reviewing the evidence which has been now stated, that the witnesses lived in different countries; Clemens flourished at Rome, Polycarp at Smyrna, Justin Martyr in Syria, Irenæus in France, Tertullian at Carthage, Origen at Alexandria, and Eusebius at Cæsarea. This proves that the books of the New Testament were equally well known in distant countries by men who had no intercourse with one another.

107

Testimonies of Heretics.

The same thing is proved by testimonies if possible less exceptionable. The ancient heretics, whose opinions were sometimes grosser and more impious than those which any modern sectary has ventured to broach, and whose zeal in the propagation of them equalled that of the most flaming enthusiast of the last century, never called in question the authenticity of the books of the New Testament. When they met with any passage in the gospels or epistles which they could not reconcile to their own heretical notions, they either erased it, or denied that the author was inspired; but they nowhere contend that the book in which it stood was not written by the apostle or evangelist whose name it bore. Eusebius relates, that the Ebionites rejected all the epistles of Paul, and called him an apostate, because he departed from the Levitical law; and they adopted as their rule of faith the gospel of St Matthew, though indeed they greatly corrupted it. This proves therefore that the gospel according to Matthew was then published, and that St Paul's epistles were then known.

Of the heretics who erased or altered passages to make the Scriptures agree with their doctrines, we may produce Marcion as an instance, who lived in the beginning of the 2d century. He lived in an age when he could have easily discovered if the writings of the New Testament had been forged; and as he was much incensed against the orthodox party, if such a forgery had been committed, unquestionably he would not have failed to make the discovery, as it would have afforded the most ample means of revenge and triumph, and enabled him to establish his own opinions with less difficulty. But his whole conduct shows clearly, that he believed the writings of the New Testament to be authentic. He said that the gospel according to St Matthew, the epistle to the Hebrews, with those of St Peter and St James, as well as the Old Testament in general, were writings not for Christians but for Jews. He published a new edition of the gospel according to Luke, and the first ten epistles of Paul; in which it has been affirmed by Epiphanius, that he altered every passage that contradicted his own opinions: but as many of these alterations are what modern critics call *various readings*, though we receive the testimony of Epiphanius, we must not rely upon his opinion (x). Hence it is evident that the books of the New Testament above-mentioned did then exist, and were acknowledged to be the works of the authors whose names they bear.

Dr Lardner, in his General Review, sums up this head of evidence in the following words: "Noetus, Paul of Samosata, Sabellius, Marcellus, Photinus, the Novatians, Donatists, Manicheans (y), Priscillianists,

beside Artemon, the Audians, the Arians, and divers others, all received most or all the same books of the New Testament which the Catholics received; and agreed in a like respect for them as writ by apostles or their disciples and companions."

Celsus and Porphyry, both enemies of the Christian religion, are powerful witnesses for the antiquity of the New Testament. Celsus, who lived towards the end of the second century, not only mentions by name, but quotes passages from the books of the New Testament: and that the books to which he refers were no other than our present gospels, is evident from the allusions to various passages still found in them. Celsus takes notice of the genealogies, which fixes two of these gospels; of the precepts, Resist not him that injures you, and, If a man strike thee on the one cheek, offer to him the other also; of the woes denounced by Christ; of his predictions; of his saying that it is impossible to serve two masters; of the purple robe, the crown of thorns, and the reed which was put into the hand of Jesus; of the blood that flowed from his body upon the cross, a circumstance which is recorded only by John; and (what is *inftar omnium* for the purpose for which we produce it) of the difference in the accounts given of the resurrection by the evangelists, some mentioning two angels at the sepulchre, others only one.

It is extremely material to remark, that Celsus not only perpetually referred to the accounts of Christ contained in the four gospels, but that he referred to no other accounts; that he founded none of his objections to Christianity upon any thing delivered in spurious gospels.

The testimony of Porphyry is still more important than that of Celsus. He was born in the year 213, of Tyrian origin. Unfortunately for the present age, says Michaelis, the mistaken zeal of the Christian emperors has banished his writings from the world; and every real friend of our religion would gladly give the works of one of the pious fathers to rescue those of Porphyry from the flames. But Mr Marsh, the learned and judicious translator of Michaelis, relates, that, according to the accounts of Isaac Vossius, a manuscript of the works of Porphyry is preserved in the Medicean library at Florence, but kept so secret that no one is permitted to see it. It is universally allowed, that Porphyry is the most sensible, as well as the most severe, adversary of the Christian religion that antiquity can produce. He was versed not only in history, but also in philosophy and politics. His acquaintance with the Christians was not confined to a single country; for he had conversed with them in Tyre, in Sicily, and in Rome. Enabled by his birth to study the Syriac as well as the Greek authors, he was of all the adversaries to the Christian religion the best qualified to inquire into the authenticity of the sacred writings. He possessed therefore every advantage which natural abilities or a scientific education could afford to discover whether the New Testament was a genuine work of the apostles and evangelists, or whether it was imposed upon the world after the decease of its pretended authors. But no trace of this suspicion is anywhere to be found in his writings. In the fragments which still remain, mention

108

Testimonies of Heathens.

109

Of Celsus.

110

Of Porphyry.

(x) Dr Loeffer has written a learned dissertation to prove that Marcion did not corrupt the sacred writings.

(y) This must be with an exception, however, of Faustus, who lived so late as the year 384.

Scripture. mention is made of the gospels of St Matthew, St Mark, and St John, the Acts of the Apostles, and the epistle to the Galatians; and it clearly appears from the very objections of Porphyry, that the books to which he alludes were the same which we possess at present. Thus he objects to the repetition of a generation in St Matthew's genealogy; to Matthew's call; to the quotation of a text from Isaiah, which is found in a psalm ascribed to Asaph; to the calling of the lake of Tiberias a sea; to the expression in St Matthew, "the abomination of desolation;" to the variation in Matthew and Mark upon the text "the voice of one crying in the wilderness," Matthew citing it from Isaiah, Mark from the prophets; to John's application of the term *Word*; to Christ's change of intention about going up to the feast of tabernacles (John vii. 8.); to the judgment denounced by St Peter upon Ananias and Sapphira, which he calls an imprecation of death.

The instances here alleged serve in some measure to show the nature of Porphyry's objections, and prove that Porphyry had read the gospels with that sort of attention which a writer would employ who regarded them as the depositaries of the religion which he attacked. Beside these specifications, there exists in the writings of ancient Christians general evidence, that the places of Scripture, upon which Porphyry had made remarks, were very numerous.

111
Authenticity of the New Testament proved from internal evidence.

112
From the style.

The internal evidence to prove the authenticity of the New Testament consists of two parts: The nature of the style, and the coincidence of the New Testament with the history of the times.

The style of the New Testament is singular, and differs very widely from the style of classical authors. It is full of Hebraisms and Syriasms; a circumstance which pious ignorance has considered as a fault, and which, even so late as the present century, it has attempted to remove; not knowing that these very deviations from Grecian purity afford the strongest presumption in its favour: for they prove, *that the New Testament was written by men of Hebrew origin, and is therefore a production of the first century.* After the death of the first Jewish converts, few of the Jews turned preachers of the gospel; the Christians were generally ignorant of Hebrew, and consequently could not write in the style of the New Testament. After the destruction of Jerusalem and the dispersion of the Jews, their language must have been blended with that of other nations, and their vernacular phraseology almost entirely lost. The language of the early fathers, though not always the purest classic Greek, has no resemblance to that of the New Testament, not even excepting the works of the few who had a knowledge of the Hebrew; as Origen, Epiphanius, and Justin Martyr, who being a native of Palestine, might have written in a style similar to that of the New Testament, had such a style then prevailed. He that suspects the New Testament to be the forgery of a more recent period, ought to produce some person who has employed a similar diction; but those who are conversant with eastern writings know well that a foreigner, who has not been enured to east-

Scripture. ern manners and modes of thinking from his infancy, can never imitate with success the oriental style, much less forge a history or an epistle which contains a thousand incidental allusions, which nothing but truth could suggest. To imitate closely the style of the New Testament is even more difficult than to imitate that of any other oriental book; for there is not a single author, even among the Jews themselves, since the destruction of Jerusalem, that has composed in a style in the least degree like it (z).

But though the books of the New Testament bear so close a resemblance in idiom, there is a diversity of style which shows them to be the work of different persons. Whoever reads with attention the epistles of Paul, must be convinced that they were all written by the same author. An equal degree of similarity is to be found between the gospel and 1st epistle of John. The writings of St John and St Paul exhibit marks of an original genius which no imitation can ever attain. The character of Paul as a writer is drawn with great judgment by Michaelis: "His mind overflows with sentiment, yet he never loses sight of his principal object, but hurried on by the rapidity of thought, discloses frequently in the middle a conclusion to be made only at the end. To a profound knowledge of the Old Testament he joins the acuteness of philosophical wisdom, which he displays in applying and expounding the sacred writings; and his explanations are therefore sometimes so new and unexpected, that superficial observers might be tempted to suppose them erroneous. The fire of his genius, and his inattention to style, occasion frequently a twofold obscurity, he being often too concise to be understood except by those to whom he immediately wrote, and not seldom on the other hand so full of his subject, as to produce long and difficult parentheses, and a repetition of the same word even in different senses. With a talent for irony and satire, he unites the most refined sensibility, and tempers the severity of his censures by expressions of tenderness and affection; nor does he ever forget in the vehemence of his zeal the rules of modesty and decorum. He is a writer, in short, of so singular and wonderful a composition, that it would be difficult to find a rival. That truly sensible and sagacious philosopher Locke was of the same opinion, and contended that St Paul was without an equal."

Poems have been forged and ascribed to former ages with some success. Philosophical treatises might be invented which it would be difficult to detect; but there is not a single instance on record where an attempt has been made to forge a history or a long epistle, where the fraud has not been either fully proved, or rendered so suspicious that few are weak enough to believe it. Whoever attempts to forge a history or an epistle in the name of an ancient author, will be in great danger of contradicting the history or the manners of that age, especially if he relate events which are not mentioned in general history, but such as refer to a single city, sect, religion, or school.

The difficulty of forging such histories as the gospels, and

(z) The style of Clemens Romanus may perhaps be an exception. By many eminent critics it has been thought so like to that of the epistle to the Hebrews, as to give room for the opinion that Clement either was the author of that epistle, or was the person who translated it from the Syro-Chaldaic language, in which it was originally composed.

Scripture. and such epistles as those of Paul, cannot be overcome by all the genius, learning, and industry, of any individual or society of men that ever lived. They contain a purer system of ethics than all the ancient philosophers could invent: They discover a candour and modesty unexampled: They exhibit an originality in the character of Jesus, and yet such a consistency as the imagination of our best poets has never reached. Now it is a very remarkable circumstance, that histories written by four different men should preserve such dignity and consistency, though frequently relating different actions of Jesus, and descending to the most minute circumstances in his life. The scene of action is too extensive, and the agreement of facts with the state of the times as represented by other historians is too close, to admit the possibility of forgery.

The scene of action is not confined to one country, it is successively laid in the greatest cities of the Roman empire; in Rome, in Antioch, in Corinth, in Athens, as well as in Jerusalem and the land of Palestine. Innumerable allusions are made to the manners and opinions of the Greeks, the Romans, and the Jews; and respecting the Jews, they extend even to the trifles and follies of their schools. Yet after the strictest examination, the New Testament will be found to have a wonderful coincidence and harmony with Josephus, the principal historian of these times, and an enemy of Christianity.

113 And from remarkable instances of coincidence between Josephus and the New Testament. * *Antiq. lib. 58. cap. 5. sect. 1, 2.* It has been a question who the soldiers were who are said in the gospel of Luke to have addressed John the Baptist in these words, *What shall we do?* An answer to this question may be found in Josephus*. Herod the tetrarch of Galilee was engaged in a war with his father-in-law Aretas, a petty king in Arabia Petraea, at the very time that John was preaching in the wilderness; and the road from Galilee to Arabia running through that wilderness, the soldiers on their march had this interview with the Baptist. A coincidence like this, which has been overlooked by all the commentators, would not probably be attended to in a forgery.

Chap. ii. § 12. Another instance of an agreement no less remarkable we shall quote from the valuable work of Michaelis. It has been a question of some difficulty among the learned, who was the Ananias who commanded St Paul to be smitten on the mouth when he was making his defence before the council in Jerusalem*. Krebs, in his remarks taken from Josephus, has shown him to have been the son of Nebedeni. But if so, how can it be reconciled with chronology, that Ananias was, at that time, called high priest, when it is certain from Josephus that the time of his holding that office was much earlier? And how comes it to pass that St Paul says, "I wist not, brethren, that he was the high priest?" The sacerdotal garb must have discovered who he was: a jest would have ill-suited the gravity of a tribunal; and a falsehood is inconsistent with the character of St Paul.

All these difficulties vanish as soon as we examine the special history of that period: "Ananias the son of Nebedeni was high priest at the time that Helena queen of Adiabene supplied the Jews with corn from Egypt, during the famine which took place in the fourth year of Claudius, mentioned in the eleventh chapter of the Acts. St Paul therefore, who took a journey to Jerusalem at that period, could not have been ignorant of

the elevation of Ananias to that dignity. Soon after **Scripture** the holding of the first council, as it is called, at Jerusalem, Ananias was dispossessed of his office, in consequence of certain acts of violence between the Samaritans and the Jews, and sent prisoner to Rome; but being afterwards released, he returned to Jerusalem. Now from that period he could not be called *high-priest* in the proper sense of the word, though Josephus has sometimes given him the title of *αρχιεπισκοπος*, taken in the more extensive meaning of a priest, who had a seat and voice in the Sanhedrim; and Jonathan, though we are not acquainted with the circumstances of his elevation, had been raised in the mean time to the supreme dignity in the Jewish church. Between the death of Jonathan, who was murdered by order of Felix, and the high-priesthood of Ismael, who was invested with that dignity by Agrippa, elapsed an interval during which the sacerdotal office was vacant. Now it happened precisely in this interval that St Paul was apprehended in Jerusalem: and, the Sanhedrim being destitute of a president, he undertook of his own authority the discharge of that office, which he executed with the greatest tyranny. It is possible therefore that St Paul, who had been only a few days in Jerusalem, might be ignorant that Ananias, who had been dispossessed of the priesthood, had taken upon himself a trust to which he was not intitled; he might therefore very naturally exclaim, "I wist not, brethren, that he was the high-priest!" Admitting him on the other hand to have been acquainted with the fact, the expression must be considered as an indirect reproof, and a tacit refusal to recognize usurped authority."

Could such a correspondence as this subsist between truth and falsehood, between a forgery and an authentic history? or is it credible that these events could be related by any person but a contemporary?

114 Impressed with the love of truth, and feeling contempt as well as detestation at pious frauds, we hesitate also to acknowledge, that in some particular facts there is a difference either real or apparent between Josephus and the writers of the New Testament. The objections arising from these differences are of two kinds: **1.** Such as would prove a book not to have been written by the author to whom it is ascribed. **2.** Such as would prove that the author was mistaken, and therefore not divinely inspired. To the first class belongs the following objection: St Paul says (2 Cor. xi. 32.) that the governor of Damascus was under Aretas the king: but if we are to judge from the 18th book of the Jewish Antiquities, which corresponds with the period of St Paul's journey to Damascus, this city must have belonged at that time to the Romans; and what authority could Aretas, a petty king in Arabia Petraea, have in such a city? In answer to this question, J. G. Hyne, in a dissertation published in 1755, has shown it to be highly probable that Aretas, against whom the Romans, not long before the death of Tiberius, made a declaration of war, which they neglected to put in execution, took the opportunity of seizing Damascus, which had once belonged to his ancestors; an event omitted by Josephus, as forming no part of the Jewish history, and by the Roman historians as being a matter not flattering in itself, and belonging only to a distant province. Secondly, That Aretas was by religion a Jew; a circumstance the more credible, when we reflect that **Judaism**

Scripture. Judaism had been widely propagated in that country, and that even kings in Arabia Felix had recognized the law of Moses. The difficulty then is so far removed, that it ceases to create suspicion against an epistle which has so many evident marks of authenticity; and it is only to be regretted that, in order to place the subject in the clearest point of view, we are not sufficiently acquainted with the particular history of Damascus.

115
Or to his want of authentic information concerning the events that happened near his birth.

Examples of the second kind are such as, if allowed their full force, might indeed prove a writer not divinely inspired, but could afford no reason to conclude that he was not the author of the writings which bear his name, since mistakes may be committed by the most accurate historian. The chief difficulties of this nature are found in the gospel according to St Luke, and do not apply to the writings of Matthew, John, Paul, and Peter. Laying aside the idea of inspiration altogether, let us inquire whether Luke or Josephus be most intitled to credit in those passages where they differ; which of them is most accurate, and which of them had the best opportunities of exploring the truth of the facts which they relate. Now Josephus relates the same story differently in different parts of his works, and is sometimes equally mistaken in them all. We do not recollect to have seen such inconsistencies in the writings of St Luke. Luke knew the characters, and witnessed many of the facts, of which he speaks; and he could receive the best information respecting those facts which were transacted in his absence. Josephus was born A. D. 37, some years after our Saviour's ascension. Now it is a very important observation of Michaelis, that the period of history with which mankind are least acquainted is that which includes the time of their childhood and youth, together with the twenty or thirty years immediately preceding their birth. Concerning the affairs transacted during that period, we are much more liable to fall into mistakes than concerning those of a remoter age. The reason is, that authentic history never comes down to the period of our birth; our knowledge of the period immediately preceding depends on hearsay; and the events, which pass within the first eighteen or twenty years of our lives, we are too young and heedless to observe with attention. This must have been more remarkably the case in the time of Josephus than at present, when there were neither daily papers nor periodical journals to supply the want of regular annals. There was no historian from whom Josephus could derive any knowledge of the times that immediately preceded his birth. There is a period then of forty or fifty years, in which, even with the most diligent inquiry, he was exposed to error.

When we find therefore the relations of Luke and Josephus so different as not to be reconciled, it would be very unfair to determine without any further inquiry in favour of Josephus. Let their character, and works, and situation, be strictly examined; let their testimony be duly weighed and compared; and then let the preference be given to that author who, according to the strictest rules of equity and justice, seems intitled to the highest degree of credit. The decision of a jury, we shall venture to say, would in every instance turn out in favour of Luke.

Having thus ascertained the authenticity of the books of the New Testament, the next thing to be considered

is their inspiration. It is certainly of some importance to know how far the apostles and evangelists were guided in their writings by the immediate influence of the spirit of God; though this knowledge, if attainable, is not equally important with that of the authenticity of these writings. Michaelis indeed asserts, that the divinity of the New Testament may be proved whether we can evince it to be written by immediate inspiration or not. "The question (says he), whether the books of the New Testament are inspired? is not so important as the question, whether they are genuine? The truth of our religion depends upon the latter, not absolutely on the former. Had the Deity inspired not a single book of the New Testament, but left the apostles and evangelists without any other aid than that of natural abilities to commit what they knew to writing, admitting their works to be authentic, and possessed of a sufficient degree of credibility, the Christian religion would still be well founded. The miracles by which it is confirmed would equally demonstrate its truth, even if the persons who attested them were not inspired, but simply human witnesses; and their divine authority is never presupposed, when we discuss the question of miracles, but merely their credibility as human evidence. If the miracles are true which the evangelists relate, the doctrines of Christ recorded in the gospels are proved to be the infallible oracles of God; and, even if we admit the apostles to be mistaken in certain not essential circumstances, yet as the main points of the religion which Christ commissioned them to preach are so frequently repeated, their epistles would instruct us as well in the tenets of the Christian system, as the works of Maclaurin in the philosophy of Newton. It is possible therefore to doubt, and even deny, the inspiration of the New Testament, and yet be fully persuaded of the truth of the Christian religion: and many really entertain these sentiments either publicly or in private, to whom we should render great injustice, if we ranked them in the class of unbelievers.

"Yet the Christian religion would be attended with difficulty, if our *principium cognoscendi* rested not on firmer ground; and it might be objected, that sufficient care had not been taken for those whose consciences were tender, and who were anxiously fearful of mistaking the smallest of the divine commands. The chief articles indeed of Christianity are so frequently repeated, both by Christ and his apostles, that even were the New Testament not inspired, we could entertain no doubt of the following doctrines: 'Jesus was the Messiah of the Jews, and an infallible messenger of God: he died for our iniquity; and by the satisfaction made by his death we obtain remission of sins, if on our part be faith and amendment of life: the Levitical law is abolished, and moral precepts, with the ceremonies of Baptism and the Supper of the Lord, are appointed in its stead: after the present follows an everlasting life, in which the virtuous shall be rewarded and the wicked punished, and where Christ himself shall be the Judge.'

"To the epistles indeed (says Michaelis), inspiration is of real consequence; but with respect to the historical books, viz. the Gospels and the Acts of the Apostles, we should really be no losers if we abandoned the system of inspiration, and in some respects have a real advantage. We should be no losers, if we considered the apostles in historical facts as merely human witnesses,

Scripture.
116
Inspiration of the New Testament,

Chap. iii.
§ 1.

117
Not necessary to the truth of Christianity according to the opinion of Michaelis.

Scripture, as Christ himself has done in saying, 'Ye also shall bear witness, because ye have been with me from the beginning*.' And no one that attempts to convince an unbeliever of the truth of Christianity, would begin his demonstration by presupposing a doctrine which his adversary denies; but would ground his arguments on the credibility of the evangelists as human historians, for the truth of the miracles, the death, and the resurrection of Christ. Even those who examine the grounds of their faith for their own private conviction, must treat the evangelists as human evidence; since it would be arguing in a circle to conclude that the facts recorded in the gospels are true, because they are inspired, when we conclude the Scriptures to be inspired in consequence of their contents. In these cases, then, we are obliged to consider the evangelists as human evidence; and it would be no detriment to the Christian cause to consider them at all times as such in matters of historical fact. We find it nowhere expressly recorded that the public transactions which the apostles knew by their own experience, and of which St Luke informed himself by diligent inquiry, should be particular objects of divine inspiration. We should even be considerable gainers, in adjusting the harmony of the gospels, if we were permitted to suppose that some one of the evangelists had committed an immaterial error, and that St John has rectified some trifling mistakes in the preceding gospels. The most dangerous objections which can be made to the truth of our religion, and such as are most difficult to answer, are those drawn from the different relations of the four evangelists."

118
Different meanings of the word inspiration.

Before any inquiry is made respecting the inspiration of the books of the New Testament, it is necessary to determine the meaning of the term; for theologians have given to it a variety of significations. Most of the German divines make it to consist in an infusion of words as well as ideas. Luther, Beza, and Salmasius, restrict it to ideas alone. Doddridge understands by it an intervention of the Deity, by which the natural faculties of the mind were directed to the discovery of truth. Warburton and Law think it was a negative intervention to preserve the sacred writers from essential errors. Some believe every circumstance was dictated by the Holy Ghost; others suppose that no supernatural assistance was granted except in the epistolary writings. See INSPIRATION.

As there is an evident distinction between inspiration and revelation, and as the origin of the Christian religion may be still proved divine, even though it were denied that those who record its facts and doctrines were inspired in the act of writing, it will be most judicious and safe to employ the word *inspiration* in that sense which can be most easily defended and supported. By doing this much may be gained and nothing lost. It is difficult to prove to a deist that the words of Scripture are divine, because he sees that every writer has words and phrases peculiar to himself. It is difficult also to prove that the ideas were infused into the mind of the authors while they were engaged in the act of writing; because concerning facts they appeal not to divine inspiration, but declare *what they have seen and heard*. In reasoning they add their own sentiments to what they had received from the Lord, and subjoin, especially in their epistles, things not connected with religion. The definition which Doddridge gives, seems

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applicable to ordinary gifts or the usual endowments of rational creatures, rather than to the extraordinary gifts of the Holy Spirit, which were bestowed on the apostles. Those who maintain that every fact or circumstance was suggested by divine inspiration, will find it no easy matter to prove their position. The opinion of Warburton and Law, with proper explanations, seems most probable. The opinion of Grotius, that only the epistles were inspired, may be easily refuted.

The proof of the authenticity of the New Testament depends on human testimony: The proof of its inspiration is derived from the declaration of inspired persons.

In proving that the New Testament is inspired, we presuppose its authenticity that the sacred books were written by the apostles whose names they bear, and that they have been conveyed to us pure and uncorrupted. This we have already attempted to prove, and we hope with success. The evidence of inspiration is the testimony of Christ and his apostles, which we receive as credible, because they confirmed their doctrines by miracles. From the important mission of Christ and his apostles, we infer that every power was bestowed which divine wisdom thought expedient; and from their conduct we conclude, that it is morally impossible that they could lay claim to any powers which they did not possess. It is proper therefore to inquire into the declarations of Christ and his apostles concerning the nature, degree, and extent, of the inspiration bestowed upon the writers of the sacred books.

If we consider Christ's more immediate promises of inspiration to the apostles, we shall find that he has given them, in the most proper sense of the word, at three several periods, 1st, When he sent the apostles to preach the gospel †; 2dly, In holding a public discourse relating to the gospel, at which were present a considerable multitude; 3dly, In his prophecy of the destruction of Jerusalem ‡. When he sent the apostles to preach the gospel, he thus addressed them: "When they deliver you up, take no thought how or what ye shall speak, for it shall be given you in that same hour what ye shall speak; for it is not you that speak, but the spirit of your Father that speaketh in you." The same promise was made almost in the same words in the presence of an immense multitude (Luke xii. 11, 12.) From these passages it has been urged, that if the apostles were to be inspired in the presence of magistrates in delivering speeches, which were soon to be forgotten, it is surely reasonable to conclude that they would be inspired when they were to compose a standard of faith for the use of all future generations of Christians. If this conclusion be fairly deduced, it would follow that the writings of the New Testament are the dictates of inspiration, not only in the doctrines and precepts, but in the very words. But it is a conclusion to which sincere Christians have made objections; for, say they, though Christ promises to assist his apostles in cases of great emergency, where their own prudence and fortitude could not be sufficient, it does not follow that he would dictate to them those facts which they knew already, or those reasonings which their own calm reflection might supply. Besides, say they, if the New Testament was dictated by the Holy Spirit, and only penned by the apostles, what reason can be given for the care with which Christ instructed them both during his

T ministry

119
The proof of it depends on the declarations of Christ and his apostles.

120
The declarations of Christ.
† Matt. x. 19, 20.
‡ Mark xiii. 11; Luke xxi. 14, 15.

Scripture
121
Proper idea
of inf. ira-
tion.

ministry and after his crucifixion in those things pertaining to the kingdom of God?

In answer to this, we may observe, that though it be difficult to prove that the identical words of the New Testament were dictated by the Holy Spirit, or the train of ideas infused into the minds of the sacred writers, there is one species of inspiration to which the New Testament has an undoubted claim. It is this, that the memories of the apostles were strengthened and their understandings preserved from falling into essential errors. This we prove from these words of our Saviour, "and I will pray the Father, and he will give you another comforter, that he may abide with you for ever. He shall teach you all things, and bring all things to your remembrance whatsoever I have said unto you *."

* John xiv.
16, 26.

This promise was surely not restrained to the day of Pentecost: it must have been a permanent gift enabling the apostles at all times to remember with accuracy the discourses of our Saviour. When the apostles therefore (Matthew and John) relate those precepts of Christ which they themselves had heard, they write indeed from memory, but under the protection of the spirit who secures them from the danger of mistake: and we must of course conclude that their gospels are inspired.

Were we called upon more particularly to declare what parts of the New Testament we believe to be inspired, we would answer, The doctrines, the precepts, and the prophecies, every thing essential to the Christian religion. From these the idea of inspiration is inseparable. As to the events, the memory of the apostles was sufficient to retain them. If this opinion be just, it would enable us to account for the discrepancies between the sacred writers, which are chiefly confined to the relation of facts and events.

122
Language
in which
the New
Testament
was com-
posed.

123
Why the
greatest
part of it is
written in
Greek.

All the books of the New Testament were originally written in Greek, except the gospel according to Matthew and the epistle to the Hebrews, which there is reason to believe were composed in the Syro-Chaldaic language, which in the New Testament is called Hebrew.

Various reasons have been assigned why the greatest part of the New Testament was written in Greek; but the true reason is this, It was the language best understood both by writers and readers. Had St Paul written to a community in the Roman province of Africa, he might have written perhaps in Latin; but epistles to the inhabitants of Corinth, Galatia, Ephesus, Philippi, and Thessalonica, to Timothy, Titus, and Philemon, from a native of Tarsus, could hardly be expected in any other language than Greek. The same may be said of the epistles of St Peter, which are addressed to the Christians of different countries, who had no other language in common than the Greek; and likewise of the epistles of St James, who wrote to Jews, that lived at a distance from Palestine, and were ignorant of Hebrew. The native language of St Luke, as well as of Theophilus, to whom he addressed his gospel, and Acts of the apostles, appears to have been Greek; and that St John wrote his gospel in that language, and not in Hebrew, is by no means a matter of surprise, since he wrote at Ephesus.

Michaelis,
vol. i. chap.
4. sect. 1.
p. 101.

With respect to the epistle to the Romans, it may be asked indeed why St Paul did not write in Latin? Now, whoever proposes this question, must presuppose that St Paul was master of the Latin language in such a degree as to find no difficulty in writing it; a matter

which remains to be proved. It is very probable that St Paul was acquainted with the Latin; but between understanding a language, and being able to write it, there is a very material difference. As St Paul was a native of Tarsus, his native language was Greek; he had travelled during several years through countries in which no other language was spoken, and when he addressed the Roman centurion at Jerusalem, he spoke not Latin, but Greek. Is it extraordinary, then, that in writing to the inhabitants of Rome he should have used a language which was there so generally understood? It has been long remarked, that Greek was at that time as well known in Rome as French in any court of modern Europe: that according to Juvenal even the female sex made use of Greek as the language of familiarity and passion; and that in letters of friendship Greek words and phrases were introduced with greater freedom than French expressions in German letters, as appears from Cicero's epistles to Atticus, and from those of Augustus preserved in the works of Suetonius. To this must be added a material circumstance, that a great part of the Roman Christians consisted of native Jews, who were better acquainted with Greek than with Latin, as either they themselves or their ancestors had come from Greece, Asia Minor, or Egypt, in which Greek was the language of the country. At least they read the bible in that language, as no Latin translation of the Old Testament at that time existed; and the Christian church at that period consisting chiefly of Jews, the heathen converts in Rome were of course under the necessity of accustoming themselves to the Greek language. In short, St Paul in his epistle to the Romans made use of a language in which alone those who were ignorant of Hebrew could read the bible. What has been here advanced respecting the epistle to the Romans is equally applicable to the Greek of St Mark, on the supposition that it was written at Rome.

To the above arguments may be added the example of Josephus, who, as well as the Apostles, was by birth a Jew. He even lived in Rome, which is more than can be said of St Paul and St Mark, who resided there only a certain time: he was likewise younger than either; he came to Italy at an age which is highly suitable to the learning of a language, and previous to that period had spent several years in the Roman camp. The Jewish antiquities, the history of the Jewish war, and the account of his own life, he wrote undoubtedly with a view of their being read by the Romans; and yet he composed all these writings in Greek. He expresses his motive for writing his Greek account of the Jewish war in the following terms: "That having written in his native language (*i. e.* the Hebrew dialect at that time spoken) a history of the war, in order that Parthians, Babylonians, Arabians, Adiabenes, and the Jews beyond the Euphrates, might be informed of those events, he was now resolved to write for the Greeks and Romans, who had not been engaged in the campaigns, a more certain account than had hitherto been given." The motives which induced Josephus to write in Greek are fully as applicable to St Paul and St Mark.

Michaelis has thus characterized the style of the New Testament. "The New Testament (says he) was written in a language at that time common among the Jews, p. 111.

Scripture.

Michaelis,
vol. ii.
chap. 4.
sect. 3.

Scripture, Jews, which may be named Hebraic Greek; the first traces of which we find in the translation of the LXX.

124
Is full of
Hebraisms

“Every man acquainted with the Greek language, who had never heard of the New Testament, must immediately perceive, on reading only a few lines, that the style is widely different from that of the classic authors. We find this character in all the books of the New Testament in a greater or less degree, but we must not therefore conclude that they possess an uniformity of style. The hardest Hebraisms, which extend even to grammatical errors in the government of cases, are the distinguishing marks of the book of Revelation; but they are accompanied with tokens of genius and poetical enthusiasm, of which every reader must be sensible who has taste and feeling. There is no translation of it which is not read with pleasure even in the days of childhood; and the very faults of grammar are so happily placed as to produce an agreeable effect. The gospels of St Matthew and St Mark have strong marks of this Hebraic style; the former has harsher Hebraisms than the latter, the fault of which may be ascribed to the Greek translator, who has made too literal a version, and yet the gospel of St Mark is written in worse language, and in a manner that is less agreeable. The epistles of St James and St Jude are somewhat better; but even these are full of Hebraisms, and betray in other respects a certain Hebrew tone. St Luke has in several passages written pure and classic Greek, of which the four first verses of his gospel may be given as an instance: in the sequel, where he describes the actions of Christ, he has very harsh Hebraisms, yet the style is more agreeable than that of St Matthew or St Mark. In the Acts of the apostles he is not free from Hebraisms, which he seems to have never studiously avoided; but his periods are more classically turned, and sometimes possess beauty devoid of art. St John has numerous, though not uncouth, Hebraisms both in his gospel and epistles; but he has written in a smooth and flowing language, and surpasses all the Jewish writers in the excellence of narrative. St Paul again is entirely different from them all; his style is indeed neglected and full of Hebraisms, but he has avoided the concise and verse-like construction of the Hebrew language, and has upon the whole a considerable share of the roundness of Grecian composition. It is evident that he was as perfectly acquainted with the Greek manner of expression as with the Hebrew, and he has introduced them alternately, as either the one or the other suggested itself the first, or was the best approved.”

125
And so-
reign idi-
oms.

Michaelis has shown that the New Testament not only contains Hebraisms but Rabbinisms, Syriacisms, Chaldaisms, Arabisms, Latinisms, and Persian words, of which he has exhibited many specimens. To theologians, whose duty it certainly is to study the language of the New Testament with attention, we would strenuously recommend the perusal of this work, which in the English translation is one of the most valuable accessions to scriptural criticism that has yet appeared. We speak of the English translation, which the large and judicious notes of Mr Marsh has rendered infinitely superior to the original.

126
Peculiar-
ities in the
composition.

To the observations which have been made respecting the language of the New Testament, a few remarks may be added concerning the peculiarities of the style

and manner of the sacred writers, particularly the historians. These remarks extend to the Old Testament as well as to the New.—The first quality for which the sacred history is remarkable is simplicity in the structure of the sentences. The first five verses of Genesis furnish an example, which consist of eleven sentences. The substantives are not attended by adjectives, nor the verbs by adverbs, no synonymas, no superlatives, no effort at expressing things in a bold, emphatical, or uncommon manner.

Scripture,
Dr Camp-
bell's Preli-
minary
Dissertation
to his Trans-
lations of
the Gospels.

2. The second quality is simplicity of sentiment, particularly in the Pentateuch, arising from the very nature of the early and uncultivated state of society about which that book is conversant.

3. Simplicity of design. The subject of the narrative so engrosses the attention of the writer, that he himself is as nobody. He introduces nothing as from himself, no remarks, doubts, conjectures, or reasonings. Our Lord's biographers particularly excel in this quality. This quality of style we meet with in Xenophon and Cæsar.

The Evangelists may be ranked next to Genesis for simplicity of composition in the sentences. John and Matthew are distinguished for it more than Mark and Luke. But the sentiment is not so remarkable for simplicity in the Evangelist as the Pentateuch. The reasons of this difference are, the state of the Jews was totally changed; their manners, customs, &c. split into factions both in religion and politics. 2. The object of our Lord's ministry, which is the great subject of the gospels, was to inculcate a doctrine and morality with which none of their systems perfectly coincided: besides, being constantly opposed by all the great men, the greater part of his history consists of instructions and disputes. 3. As it is occupied with what our Saviour said and what he did, this makes two distinctions of style and manner; that of our Saviour, and the sacred penman's. In their own character, they neither explain nor command, promise nor threaten, praise nor blame. They generally omit the names of our Lord's enemies; thus directing our hatred at the vices they committed, not at the persons. They never mention such persons without necessity; which is the case with the high-priest, Pilate, Herod, and Judas: the three first for the chronology, the fourth to do justice to the eleven.

Herodias is indeed mentioned with dishonour, but her crime was a public one. On the other hand, all persons distinguished for any thing virtuous are carefully mentioned, Joseph of Arimathea, Nicodemus, Zaccheus, Bartimeus, Jairus, Lazarus, Mary, and Martha. They record their own faults (Peter's, Thomas's), nor do they make any merit of their confession. In one uniform strain they relate the most signal miracles and most ordinary facts.

From the narrative is excluded that quality of style which is called *animation*. Nothing that discovers passion in the writer or is calculated to excite the passions of the reader. Every thing is directed to mend the heart.

But in the discourses and dialogues of our Saviour the expression, without losing any thing of its simplicity, is often remarkable for spirit and energy. Respecting harmony and smoothness, qualities which only add an external polish to language, they had not the least solici-
tude

Scripture.

As to elegance, there is an elegance which results from the use of such words as are most in use with those who are accounted fine writers, and from such arrangements in the words and clauses as have generally obtained their approbation. This is disclaimed by the sacred authors.

But there is an elegance of a superior order more nearly connected with the sentiment; and in this sort of elegance they are not deficient. In all the oriental languages great use is made of tropes, especially metaphors. When the metaphors employed bear a strong resemblance, they confer vivacity: if they be borrowed from objects which are naturally agreeable, beautiful, or attractive, they add also elegance. The Evangelists furnish us with many examples of this kind of vivacity and elegance. Our Lord borrows tropes from corn-fields, vineyards, gardens, &c.

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Proper method of studying the New Testament by analysis and induction.

As a valuable appendage to this part of our subject, we shall subjoin Dr Campbell's method of studying the books of the New Testament. This we offer to our readers as a beautiful instance of the judicious application of philosophy to sacred studies. It is the same method of discovering truth by analysis and induction, which was pursued by Sir Isaac Newton with such astonishing success, which since his time has been uniformly practised in natural philosophy, and has been also applied to chemistry, to medicine, to natural history, and to the philosophy of mind, by the ingenious Dr Reid. This is the path of sound philosophy, which can alone lead to the discovery of truth. In following it, our progress may be slow, but it will be sure. If all theologians would steadily adhere to it, we might then entertain the pleasant hope of discarding for ever those absurd systems of religion which are founded on single passages and detached fragments of scripture, and of establishing opinions and doctrines on a solid foundation.

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Dr Campbell's method. Prel. Dis. to the Gospels.

"1. To get acquainted with each writer's style; to observe his manner of composition, both in sentences and paragraphs; to remark the words and phrases peculiar to him, and the peculiar application that he may sometimes make of ordinary words; for there are few of those writers who have not their peculiarities in all the respects now mentioned. This acquaintance with each can be attained only by the frequent and attentive reading of his works in his own language.

"2. To inquire into the character, the situation, and the office of the writer, the time, the place, and the occasion of his writing, and the people for whose immediate use he originally intended his work. Every one of these particulars will sometimes serve to elucidate expressions otherwise obscure or doubtful. This knowledge may in part be learned from a diligent and reiterated perusal of the book itself, and in part be gathered from what authentic, or at least probable, accounts have been transmitted to us concerning the compilation of the canon.

"3. The last general direction is, to consider the principal scope of the book, and the particulars chiefly observable in the method by which the writer has purposed to execute his design. This direction is particularly applicable to the epistolary writings, especially those of Paul.

"4. If a particular word or phrase occur, which appears obscure, perhaps unintelligible, the first thing we ought to do, if satisfied that the reading is genuine, is

to consult the context, to attend to the manner wherein the term is introduced, whether in a chain of reasoning or in a historical narration, in a description, or included in an exhortation or command. As the conclusion is inferred from the premises, or as from two or more known truths a third unknown or unobserved before may fairly be deduced; so from such attention to the sentence in connection, the import of an expression, in itself obscure or ambiguous, will sometimes with moral certainty be discovered. This, however, will not always answer.

"5. If it do not, let the second consideration be, whether the term or phrase be one of the writer's peculiarities. If so, it comes naturally to be inquired, what is the acceptation in which he employs it in other places? If the sense cannot be precisely the same in the passage under review, perhaps, by an easy and natural metaphor or other trope, the common acceptation may give rise to one which perfectly suits the passage in question.—Recourse to the other places wherein the word or phrase occurs in the same author is of considerable use, though the term should not be peculiar to him.

"6. But thirdly, if there should be nothing in the same writer that can enlighten the place, let recourse be had to the parallel passages, if there be any such, in the other sacred writers. By parallel passages, I mean those places, if the difficulty occur in history, wherein the same or a similar story, miracle, or event, is related; if in teaching or reasoning, those parts wherein the same argument or doctrine is treated, or the same parable propounded; and in moral lessons, those wherein the same class of duties is recommended; or, if the difficulty be found in a quotation from the Old Testament, let the parallel passage in the book referred to, both in the original Hebrew, and in the Greek version, be consulted.

"7. But if in these there be found nothing that can throw light on the expression of which we are in doubt, the fourth recourse is to all the places wherein the word or phrase occurs in the New Testament, and in the Septuagint version of the Old, adding to these the consideration of the import of the Hebrew or Chaldaic word, whose place it occupies, and the extent of signification, of which in different occurrences such Hebrew or Chaldaic term is susceptible.

"8. Perhaps the term in question is one of those which very rarely occur in the New Testament, or those called *απαξ λεγόμενα*, only once read in Scripture, and not found at all in the translation of the Seventy. Several such words there are. There is then a necessity, in the fifth place, for recurring to the ordinary acceptation of the term in classical authors. This is one of those cases wherein the interpretation given by the earliest Greek fathers deserves particular notice. In this, however, I limit myself to those comments wherein they give a literal exposition of the sacred text, and do not run into vision and allegory."

The manuscripts of the New Testament are the natural source from which the genuine readings of the Greek Testament are to be drawn. The printed editions are either copies of more ancient editions, or of manuscripts; and they have no further authority than as they correspond to the manuscripts from which they were originally taken. By manuscripts of the New Testament, we mean those only which were written before the

Scripture.

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Manuscript of the New Testament.

Scripture. the invention of printing. The most ancient of these are lost, and there is no manuscript now extant older than the sixth century. Few contain the whole New Testament; some contain the four gospels; some the Acts of the Apostles and Epistles; and others the book of Revelation. The greatest number are those which contain the first part; those which have the second, or the first and second together, are likewise numerous; but those of the third are extremely few. It must be added also, that in many manuscripts those epistles are omitted whose divine authority was formerly doubted.

There are many manuscripts which have been examined only for a single text, such as 1 John v. 7. or at least for a very small number. Others have been examined from the beginning to the end, but not completely, and in respect of all the readings. A third class consists of such as either have been, or are said to have been, completely and accurately collated. But this requires such phlegmatic patience, that we can hardly expect to find in critical catalogues all the various readings which have been only once collated. Wettstein, in collating many manuscripts anew, made discoveries which had entirely escaped the notice of his predecessors. The fourth class consists of such as have been completely and accurately collated more than once; but here also we are in danger of being led into error.—When various readings are transferred from one critical edition to another, as from that of Gregory to Mill's edition, and from the latter to those of Bengel and Wettstein, the manuscripts must sometimes be falsely named, and various readings must frequently be omitted. And as Wettstein has marked by ciphers manuscripts that in former editions had been denoted by their initial letters, he could hardly avoid substituting, in some cases, one figure instead of another. The fifth class, which is by far the most valuable, consists of such as have been printed word for word, and therefore form an original edition of the Greek Testament. We can boast but of a very few manuscripts of this kind. Hearne printed at Oxford, in 1715, the Acts of the Apostles in Greek and Latin from the Codex Laudianus 3.; Knittel has annexed to his edition of *Ulphilas*, p. 53—118, a copy of two very ancient fragments preserved in the library of Wolfenbüttele; the one of the four Gospels in general, the other of St Luke and St John. Woide printed in 1786 the Codex Alexandrinus, a manuscript of great antiquity, which shall afterwards be more fully described; and the University of Cambridge has resolved to publish, in a similar manner, the Cod. Cant. I. or, as it is sometimes called, the Codex Bezae, the care of which is intrusted to Dr Kipling, a publication which will be thankfully received by every friend to sacred criticism. It was the intention of the Abbé Spoletti, a few years ago, to publish the whole of the celebrated Codex Vaticanus; which would likewise have been a most valuable accession, since a more important manuscript is hardly to be found in all Europe. He delivered for this purpose a memorial to the Pope; but the design was not put into execution, either because the Pope refused his assent, or the Abbé abandoned it himself. See the *Oriental Bible*, vol. xxii. n^o 333. and vol. xxiii. n^o 348.

“A very valuable library,” says Michaelis, “might be composed of the impressions of ancient manuscripts,

which, though too expensive for a private person, should be admitted into every university collection, especially the Alexandrine and Cambridge manuscripts, to which I would add, if it were now possible to procure it, Hearn's edition of the Codex Laudianus 3. A plan of this sort could be executed only in England, by a private subscription, where a zeal is frequently displayed in literary undertakings that is unknown in other countries; and it were to be wished that the project were begun before length of time has rendered the manuscripts illegible, and the attempt therefore fruitless. Ten thousand pounds would go a great way toward the fulfilling of this request, if the learned themselves did not augment the difficulty of the undertaking, by adding their own critical remarks, and endeavouring thereby to recommend their publications, rather than by presenting to the public a faithful copy of the original. Should posterity be put in possession of faithful impressions of important manuscripts, an acquisition which would render the highest service to sacred criticism, all these editions of the New Testament should be regulated on the same plan as Hearn's edition of the Acts of the Apostles.” It must be highly flattering to the patriotic spirit of an Englishman to hear the encomiums which learned foreigners have so profusely bestowed on our liberality in supporting works of genius and learning and public utility. The plan which Michaelis proposes to us, in preference to all the other nations in Europe, is noble and magnificent, and would certainly confer immortality on those men who would give it their patronage and assistance.

There are many ancient manuscripts, especially in Italy, which have never been collated, but lie still unexplored. Here is a field where much remains to be done. See Marsh's Notes to Michaelis, vol. ii. p. 643.

Michaelis has given a catalogue of ancient manuscripts, amounting in number to 292, to which he has added a short account of each. In this place we shall confine our observations to the most celebrated, the Alexandrian and Vatican manuscripts, which we have chiefly extracted from Michaelis.

The *Alexandrine manuscript* consists of four volumes; the three first of which contain the Old Testament, the fourth the New Testament, together with the first Epistle of Clement to the Corinthians, and a fragment of the second. In the New Testament, which alone is the object of our present inquiry, is wanting the beginning as far as Matthew xxv. 6. οὐρανὸς ἔρχεται, likewise from John vi. 50. to viii. 52. and from 2 Cor. iv. 13. to xii. 7. It must likewise be observed, that the Psalms are preceded by the epistle of Athanasius to Marcellinus, and followed by a catalogue, containing those which are to be used in prayer for each hour, both of the day and of the night; also by 14 hymns, partly apocryphal, partly biblical, the 11th of which is an hymn in praise of the Virgin Mary, entitled *ὑμνὸς τῇ ἁγίᾳ τῇ θεοτόκῃ*: further, the *Hypotheses Eusebii* are annexed to the Psalms, and his Canones to the Gospels. It is true, that this has no immediate reference to the New Testament, but may have influence in determining the antiquity of the manuscript itself.

It has neither accents nor marks of aspiration; it is written with capital, or, as they are called, *uncial letters*, and

Scripture and has very few abbreviations. There are no intervals between the words; but the sense of a passage is sometimes terminated by a point, and sometimes by a vacant space. Here arises a suspicion that the copyist did not understand Greek, because these marks are sometimes found even in the middle of a word, for instance Levit. v. 4. *κινεσ* for *κινου*, and Numb. xiii. 29. *μω Τονε*.

This manuscript was presented to Charles I. in 1628, by Cyrillus Lucaris patriarch of Constantinople. Cyrillus himself has given the following account: "We know so much of this manuscript of the holy writings of the Old and New Testament, that Thecla an Egyptian lady of distinction (*nobilis femina Ægyptia*) wrote it with her own hand 1300 years ago (A). She lived soon after the council of Nicæa. Her name was formerly at the end of the book; but when Christianity was subverted in Egypt by the errors of Mahomet, the books of the Christians suffered the same fate, and the name of Thecla was expunged. But oral tradition of no very ancient date (*memoria et traditio recens*) has preserved the remembrance of it."

But the reader will see that this account is merely traditional. Dr Semler very properly observes, that there is no more reason to rely on a tradition respecting the transcriber of an ancient manuscript, than on a tradition which relates to an ancient relic. The arguments which have been urged by Wetstein, Semler, Oudin, and Woide, to fix the date of this manuscript, are so many, that it would be tedious to repeat them. But, after all, its antiquity cannot be determined with certainty, though it appears from the formation of the letters, which resemble those of the fourth and fifth centuries, and the want of accents, that it was not written so late as the tenth century. In this century it was placed by Oudin, while Grabe and Schulze have referred it to the fourth, which is the very utmost period that can be allowed, because it contains the epistles of Athanasius. Wetstein, with more probability, has chosen a mean between these two extremes, and referred it to the fifth century: but we are not justified in drawing this inference from the formation of the letters alone, for it is well known that the same mode of forming the letters was retained longer in some countries and in some monasteries than in others.

We are now in possession of a perfect impression of this manuscript, which is accompanied with so complete and so critical a collection of various readings, as is hardly to be expected from the edition of any other manuscript. Dr Woide published it in 1786, with types cast for that purpose, line for line, without intervals between the words, as in the manuscript itself.

the copy is so perfect a resemblance of the original, *Scripture* that it may supply its place. Its title is *Novum Testamentum Græcum e codice MS. Alexandrino qui Londini in Bibliotheca Musæi Britannici asservatur descriptum*. It is a very splendid folio; and the preface of the learned editor contains an accurate description of the manuscript, with an exact list of all its various readings, that takes up no less than 89 pages; and each reading is accompanied with a remark, in which is given an account of what his predecessors Juninus, Walton, Fell, Mill, Grabe, and Wetstein, had performed or neglected.

The *Vatican manuscript* contained originally the whole Greek Bible, including both the Old and New Testament; and in this respect, as well as in regard to its antiquity, it resembles none so much as the *Codex Alexandrinus*, but no two manuscripts are more dissimilar in their readings, in the New Testament as well as in the Old. After the Gospels, which are placed in the usual order, come the Acts of the Apostles, which are immediately followed by the seven catholic epistles. This must be particularly noted, because some have contended that the second Epistle of St Peter, with the second and third of St John, were wanting. Professor Hwiid, in a letter dated Rome, April 12. 1781, assured Michaelis that he had seen them with his own eyes, that the second Epistle of St Peter is placed folio 1434, the second of St John fol. 1442, the third folio 1443: then follow the Epistles of St Paul, but not in the usual order; for the Epistle to the Hebrews is placed immediately after those to the Thessalonians: and it is not improbable, that in the more ancient manuscript, from which the *Codex Vaticanus* was copied, this Epistle was even placed before that to the Ephesians, and immediately after the Epistle to the Galatians (B); for the Epistles of St Paul are divided into 93 sections by figures written in the margin with red ink; but the Epistle to the Galatians ends with 59, and that to the Ephesians begins with 70; the Epistle to the Hebrews, on the contrary, begins with 60, and ends with 69. With the words *ακουε τη διο*, Heb. ix. 14. the manuscript ceases, the remaining leaves being lost. There is wanting, therefore, not only the latter part of this Epistle, but the Epistles to Timothy, Titus, and Philemon, with the Revelation of St John: but this last book, as well as the latter part of the Epistle to the Hebrews, has been supplied by a modern hand in the 15th century. In many places the faded letters have been also retouched by a modern, but careful hand; and when the person who made these amendments, who appears to have been a man of learning, found a reading in his own manuscript which differed from that of the *Codex Vaticanus*, he has noted it in the margin, and

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Account
of the Va-
tican ma-
nuscript.

(A) He wrote this in the year 1628. According to this account, then, the manuscript must have been written in 328; a date to which so many weighty objections may be made, that its most strenuous advocates will hardly undertake to defend it. But this error has furnished Oudin with an opportunity of producing many arguments against the antiquity of the *Codex Alexandrinus*, which seem to imply, that Grabe and others, who have referred it to the fourth century, suppose it to have been written in the above-mentioned year. Now it is probable, that the inference which has been deduced from the account of Cyrillus is more than he himself intended to express, as he relates that Thecla lived after the council of Nicæa.

(B) Probably because the Epistle to the Hebrews, as well as the Epistle to the Galatians, relates to the abolition of the Mosaic law.

Scripture, and has generally left the text itself untouched, though in some few examples he has ventured to erase it.

It is certain, that this manuscript is of very high antiquity, though it has been disputed which of the two in this respect is entitled to the preference, the *Vaticanus* or *Alexandrinus*. The editors of the Roman edition of the Septuagint, in 1587, referred the date of the Vatican manuscript to the fourth century, the period to which the advocates for its great rival refer the *Codex Alexandrinus*. More moderate, and perhaps more accurate, are the sentiments of that great judge of antiquity Montfaucon, who, in his *Bibliotheca Bibliothecarum*, p. 3. refers it to the fifth or sixth century; and adds, that though he had seen other manuscripts of equal antiquity, he had found none at the same time so complete.

The *Codex Vaticanus* has a great resemblance to the manuscripts noted by Wettstein, C. D. L. 1. 13. 33. 69. 102. and to the Latin, Coptic, and Ethiopic versions; but it is preferable to most of them, in being almost entirely free from those undeniable interpolations and arbitrary corrections which are very frequently found in the above-mentioned manuscripts, especially in D. 1. and 69. It may be applied, therefore, as a mean not only of confirming their genuine readings, but of detecting and correcting those that are spurious. It is written with great accuracy, and is evidently a faithful copy of the more ancient manuscript from which it was transcribed. Peculiar readings, or such as are found neither in other manuscripts nor ancient versions, are seldom discovered in the *Codex Vaticanus*; and of the few which have been actually found, the greatest part are of little importance. But in proportion as the number of such readings is small, the number of those is great; in support of which few only, though ancient authorities, have been hitherto produced. But this manuscript has not throughout the whole New Testament the same uniform text.

As we have now a beautiful printed edition of the Alexandrine manuscript by Dr Woide, it is much to be wished that we had also an exact impression of the Vatican manuscript. From the superstitious fears and intolerant spirit of the inquisition at Rome, all access to this manuscript was refused to the Abbé Spoletti, who presented a memorial for that purpose. Unless the pope interpose his authority, we must therefore despair of having our wishes gratified; but from the liberality of sentiment which the present pontiff has shown on several occasions, we hope that the period is not far distant when the Vatican library will be open to the learned; and when the pope will think it his greatest honour to encourage their researches.

The most valuable editions of the Greek New Testament are those of Mill, Bengel, and Wettstein.

The edition of Mill, which was only finished 14 days before his death, occupied the attention of the author for 30 years.

The collections of various readings which had been made before the time of Mill, the Veleian, the Barberini, those of Stephens, the London Polyglot, and Fell's edition, with those which the Bishop had left in manuscript, and whatever he was able to procure elsewhere, he brought together into one large collection. He made likewise very considerable additions to it. He

collated several original editions more accurately than had been done before: he procured extracts from Greek manuscripts, which had never been collated; and of such as had been before collated, but not with sufficient attention, he obtained more complete extracts. It is said that he has collected from manuscripts, fathers, and versions, not less than 30,000 various readings. This collection, notwithstanding its many imperfections, and the superiority of that of Wettstein, is still absolutely necessary to every critic: for Wettstein has omitted a great number of readings which are to be found in Mill, especially those which are either taken from the Vulgate, or confirm its readings. Mill was indeed too much attached to this version; yet he cannot be accused of partiality in producing its evidence, because it is the duty of a critic to examine the witnesses on both sides of the question: and Wettstein, by too frequently neglecting the evidence in favour of the Vulgate, has rendered his collection less perfect than it would otherwise have been. He likewise added, as far as he was able, readings from the ancient versions; and is much to be commended for the great attention which he paid to the quotations of the fathers; the importance of which he had sagacity enough to discern.

It cannot, however, be denied, that Mill's Greek Testament has many imperfections, and some of real importance. His extracts from manuscripts often are not only incomplete, but erroneous; and it is frequently necessary to correct his mistakes from the edition of Wettstein. His extracts from the oriental versions are also imperfect, because he was unacquainted with these languages; and in selecting readings from the Syriac, the Arabic, and Ethiopic, he was obliged to have recourse to the Latin translations, which are annexed to those versions in the London Polyglot.

The great diligence which Mill had shown in collecting so many various readings, alarmed the clergy as if the Christian religion had been in danger of subversion. It gave occasion for a time to the triumphs of the deist, and exposed the author to many attacks. But it is now universally known, that not a single article of the Christian religion would be altered though a deist were allowed to select out of Mill's 30,000 readings whatever he should think most inimical to the Christian cause.

In 1734, Bengel abbot of Alpirspach, in the duchy Of Wurtemberg, published a new edition of the Greek Testament. The fears which Mill had excited began to subside upon this new publication; for Bengel was universally esteemed a man of piety. Bengel was not only diligent in the examination of various readings, but in the strictest sense of the word conscientious; for he considered it as an offence against the Deity, if, through his own fault, that is, through levity or carelessness, he introduced a false reading into the sacred text. His object was not merely to make a collection of readings, and leave the choice of them to the judgment of the reader, but to examine the evidence on both sides, and draw the inference: yet he has not given his own opinion so frequently as Mill, whom he resembled in his reverence for the Latin version, and in the preference which he gave to harsh and difficult readings, before those which were smooth and flowing. It may be observed in general, that he was a man of profound learning;

Scripture. learning, and had a cool and sound judgment, though it did not prevent him from thinking too highly of the Latin readings, and of the *Codex Alexandrinus*, with other Latinizing manuscripts.

The imperfections of Bengel's edition arise chiefly from his diffidence and caution. He did not venture to insert into the text any reading which had not already appeared in some printed edition, even though he believed it to be the genuine reading. In the book of Revelation indeed he took the liberty to insert readings which had never been printed; because few manuscripts had been used in the printing of that book.

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And of
Wetstein.

The celebrated edition of John James Wetstein, which is the most important of all, and the most necessary to those engaged in sacred criticism, was published at Amsterdam in 1751 and 1752, in two volumes folio. No man will deny that Wetstein's *Prolegomena* discover profound erudition, critical penetration, and an intimate acquaintance with the Greek manuscripts. It is a work which in many respects has given a new turn to sacred criticism, and no man engaged in that study can dispense with it. Wherever Wetstein has delivered his sentiments respecting a Greek manuscript, which he has done less frequently than Mill, and indeed less frequently than we could have wished, he shows himself an experienced and sagacious critic. He is likewise more concise than Mill in delivering his opinion, and does not support it by producing so great a number of readings from the manuscript in question. This conciseness is the consequence of that warmth and haste which were peculiar to Wetstein's character, and which have sometimes given birth to mistakes. The fire of his disposition was likewise the cause of his advancing conjectures, in regard to the history of his manuscripts, which exceed the bounds of probability. But the critical rules which he has delivered are perfectly just; and in this respect there is a remarkable agreement between him and his eminent predecessors Mill and Bengel. In regard to the Latin version alone they appear to differ: in Mill and Bengel it has powerful, and perhaps partial, advocates; but in Wetstein a severe and sagacious judge, who sometimes condemns it without a cause. The Greek manuscripts which confirm the readings of the Vulgate, and which he supposed had been corrupted from it, he of course condemned with equal severity: and some collections of various readings which had been made by Catholics, he made no scruple to pronounce a forgery, saying, "*Timeo Danaos, et dona ferentes.*" But in consequence of his antipathy to the Vulgate, his collection of various readings is less perfect than it might have been.

It has been asked, 1. Whether he has quoted his manuscripts either falsely or imperfectly, in order to establish his own religious opinions? or, 2. Whether his diligence and accuracy has been such that we may at all times depend upon them? To the first of these questions there can be no other answer, than that Wetstein, in his character of a critic, is perfectly honest. With respect to the second, his diligence and accuracy, Michaelis thinks there is less reason to pronounce him faultless. But Mr Marsh has examined the examples on which Michaelis founds his assertion, and declares that Michaelis is mistaken in every one of them.

The diligence of Wetstein can scarcely be questioned

by any who are acquainted with his history. He travelled into different countries, and examined with his own eyes a much greater number of manuscripts than any of his predecessors. His collection of various readings amount to *above a million*; and he has not only produced a much greater quantity of matter than his predecessors, but has likewise corrected their mistakes. The extracts from manuscripts, versions, and printed editions of the Greek Testament, which had been quoted by Mill, are generally quoted by Wetstein. Whenever Wetstein had no new extracts from the manuscripts quoted by Mill, or had no opportunity of examining them himself, he copied literally from Mill; but wherever Mill has quoted from printed editions, as from the margin of Robert Stephens's for instance, or from the London Polyglot, Wetstein did not copy from Mill, but went to the original source, as appears from his having corrected many mistakes in Mill's quotations.

In the opinion of Michaelis, there are many defects in the edition of Wetstein, which require to be supplied, and many errors to be corrected. Yet still it must be allowed to be a work of immense labour, and most valuable to those engaged in sacred criticism; and it is surprising, when we consider the difficulties and labour which Wetstein had to encounter, that his errors and imperfections are so few.

The proposal of Michaelis, however, of a new collation of manuscripts, in order to form a complete collection of various readings, is worthy the attention of the learned. In mentioning this proposal, Michaelis turns a wishful eye towards Britain, the only country, he says, which possesses the will and the means to execute the task. Should a resolution, he adds, be formed in this island, so happily situated for promoting the purposes of general knowledge, to make the undertaking a public concern, to enter into a subscription, and to employ men of abilities in collating manuscripts both at home and abroad, they would be able to do more in ten years than could otherwise be done in a century. And could this nation direct its attention to any object more glorious or more useful than in ascertaining the text of the sacred Scriptures, and giving to posterity an accurate edition?

As the sense of Scripture, as well as all other books, is affected by the punctuation, it is of importance to determine whether the stops or points which we find in the sacred books were used by the sacred writers, or have been inserted by modern transcribers.

We are told by Montfaucon, in his *Palaographia Græca*, p. 31. that the person who first distinguished the several parts of a period in Greek writing, by the introduction of a point, was Aristophanes of Byzantium, who lived under Ptolemæus Epiphanes, in the 145th Olympiad. But though points were not used in books before this period, they were employed in inscriptions above 400 years before the birth of Christ. See *Mont. Pal. Græc.* p. 135.

Under the article PUNCTUATION we mentioned, on authority which we reckoned unquestionable, that the ancient manuscripts were written without any points. We have now, however, discovered, from Woide's edition of the *Codex Alexandrinus*, that points are used in that manuscript, though omitted in the *fac simile* given by

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Punctua-
tion of the
New Tes-
tament.

Scripture. by Montfaucon. That they are found too in the *Co-*
dex Vaticanus, though not frequently, is related by
Birch in his *Prolegomena*, p. 14.

As the fact has not been generally known, that the
ancients pointed their manuscripts, and as it is an im-
portant and interesting fact, we shall present our read-
ers with the first six lines of St John's Gospel, as they
are pointed in the Alexandrine manuscript :

ΕΝΑΡΧΗΗΝΘΑΟΓΟΣΚΑΙΘΑΟΓΟΣΗΝ
ΠΡΟΣΤΟΝΘΝΚΑΙΘΗΝΘΑΟΓΟΣ·
ΟΤΤΟΣΗΝΕΝΑΡΧΗΠΡΟΣΤΟΝΘΝ
ΠΑΝΤΑΔΙΑΤΤΟΤΕΓΕΝΕΤΟ·ΚΑΙΧΩ
ΡΕΙΣΑΤΤΟΤΕΓΕΝΕΤΟΟΤΑΕΕΝ·
ΟΤΕΓΟΝΕΝΕΝΑΤΤΩΖΩΗΗΝ·

Whether any points for marking the sense were used
by the apostles, cannot be determined ; but the points
now in use have been invented since.

In the fourth century, Jerome began to add the com-
ma and colon to the Latin version ; and they were then
inserted in many more ancient manuscripts. In the
fifth century, Euthalius a deacon of Alexandria divided
the New Testament into lines. This division was re-
gulated by the sense, so that each line ended where some
pause was to be made in speaking. And when a co-
pyist was disposed to contract his space, and therefore
crowded the lines into each other, he then placed a
point where Euthalius had terminated the line. In
the eighth century, the stroke was invented which we
call a comma. In the Latin manuscripts, Jerome's
points were introduced by Paul Warnfried and Alcuin,
at the command of Charlemagne. In the ninth cen-
tury, the Greek note of interrogation (;) was first used.
At the invention of printing the editors placed the
points arbitrarily, probably without bestowing the ne-
cessary attention ; and Stephens, in particular, varied
his points in every edition (D).

The meaning of many passages in the Scripture has
been altered by false pointing. We shall produce one
instance of this : Mat. v. 34. is commonly pointed in
this manner, *εγω δε λεγω υμιν, μη ομοσαι ολως· μητι εν τω υρακω,*
and consequently translated, "But I say unto you,
swear not at all." But if, instead of the colon placed
after *ολως*, we substitute a comma, the translation will
be, "But I say to you that you ought by no means to
swear, either by heaven, for it is his throne, or by
earth, for it is his footstool." The command of Christ
therefore applies particularly to the abuse of oaths a-
mong the Pharisees, who on every trivial occasion
swore by the heaven, the earth, the temple, the head,
&c. but it implies no prohibition to take an oath in
the name of the Deity on solemn and important occa-
sions.

The ancients divided the New Testament into two
kinds of chapters, some longer and some shorter. This
method appears to be more ancient than St Jerome, for
he expunged a passage from the New Testament which
makes an entire chapter. The longer kind of chap-
ters were called *breves*, the shorter *capitula*. St Mat.
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Scripture. they contained, according to Jerome, 68 breves ; Mark
contained 48 ; Luke 83 ; and John 18. All the evan-
gelists together consisted of 217 breves and 1126 capi-
tula. The inventor of our modern division into chap-
ters was Hugo de S. Caro, a French Dominican friar
who lived in the 13th century.

The ancients had two kinds of verses, one of which
they called *εἰρηαι*, and the other *ρηματα*. The *remata*
were lines which contained a certain number of letters,
like our printed books, and therefore often broke off in
the middle of a word. Josephus's 20 books of Antiqui-
ties contained 60,000 of them, though in Ittiquis's
edition there are only 40,000 broken lines.

Stichi were lines measured by the sense: according to
an ancient written list mentioned by Father Simin, there
were in the New Testament 18,612 of these.

The verses into which the New Testament is now Division
divided are more modern, and an imitation of the di- into ver-
vision of the Old Testament. Robert Stephens, the ses.
first inventor, introduced them in his edition in the year
1551. He made this division on a journey from Ly-
ons to Paris ; and, as his son Henry tells us in the pre-
face to the Concordance of the New Testament, he
made it *inter equitandum*. This phrase probably means,
that when he was weary of riding, he amused himself
with this work at his inn.

This invention of the learned printer was soon intro- Its disad-
duced into all the editions of the New Testament ; and vantages.
it must be confessed, that in consulting and quoting the
Scriptures, and in framing concordances for them, a sub-
division into minute parts is of the greatest utility. But
all the purposes of utility could surely have been gain-
ed, without adopting the hasty and indigested division
of Stephens, which often breaks the sense in pieces,
renders plain passages obscure, and difficult passages un-
intelligible. To the injudicious division of Stephens
we may ascribe a great part of the difficulties which at-
tend the interpretation of the New Testament, and a
great many of those absurd opinions which have dis-
graced the ages of the Reformation. For as separate
verses appear to the eyes of the learned, and to the
minds of the unlearned, as so many detached sentences,
they have been supposed to contain complete sense, and
they have accordingly been explained without any re-
gard to the context, and often in direct opposition to
it. Were any modern history or continued discourse
divided into fragments with as little regard to the sense,
we should soon find, that as many opposite meanings
could be forced upon them as have been forced upon
the books of the New Testament. The division into
verses has been still more injurious to the Epistles than
to the Gospels, for there is a close connection between
the different parts of the Epistles, which the verses en-
tirely dissolve. It is therefore to be wished that this
division into verses were laid aside. The Scriptures
ought to be divided into paragraphs, according to the
sense ; and the figures ought to be thrown into the mar-
gin. In this way, the figures will retain their utility
without

137
Division
into chap-
ters.

(D) The reader will perceive that the account of the origin of points is different from that given under Punc-
Tuation. But the best authors differ upon this subject. We shall perhaps reconcile the difference, by suppo-
sing that points were invented at the time here mentioned, but were not in general use till the time mentioned
under the article PUNCTUATION.

Scripture. without their disadvantages. Dr Campbell, in his beautiful translation of the Gospels, has adopted this method with great judgment and success; and he who will read that translation, will perceive that this single alteration renders the Gospels much more intelligible, and, we may add, more entertaining (E).

140
Meaning
of the word
Gospel.

The word ΕΓΓΕΛΙΟΝ signifies any joyful tidings, and exactly corresponds to our English word GOSPEL. In the New Testament this term is confined to "The glad tidings of the coming of the Messiah." Thus, in Mat. xi. 5. our Lord says, "The poor have the Gospel preached;" that is, The coming of the Messiah is preached to the poor. Hence the name of *Gospel* was given to the histories of Christ, in which the good news of the coming of the Messiah, with all its joyful circumstances, are recorded.

241
Gospel ac-
cording to
St Mat-
thew.

That the Gospel according to Matthew was composed, says Dr Campbell, by one born a Jew, familiarly acquainted with the opinions, ceremonies, and customs of his countrymen; that it was composed by one conversant in the sacred writings, and habituated to their idiom; a man of plain sense, but of little or no learning, except what he derived from the Scriptures of the Old Testament; and finally, that it was the production of a man who wrote from conviction, and had attended closely to the facts and speeches which he related, but who in writing entertained not the most distant view of setting off himself—we have as strong internal evidence as the nature of the thing will admit, and much stronger than that wherein the mind ninety-nine cases out of a hundred acquiesces.

That the author of this history of our blessed Saviour was Matthew, appears from the testimony of the early Christians. It is attested by Jerome, Augustin, Epiphanius, and Chrysostom, and in such a manner as shews that they knew the fact to be uncontroverted, and judged it to be incontrovertible. Origen, who flourished in the former part of the 3d century, is also respectable authority. He is quoted by Eusebius in a chapter* wherein he specially treats of Origen's account of the sacred canon. "As I have learned (says Origen) by tradition concerning the four gospels, which alone are received without dispute by the whole church of God under heaven; the first was written by Matthew, once a publican, afterwards an apostle of Jesus Christ, who delivered it to the Jewish believers, composed in the Hebrew language." In another place he says, "Matthew writing for the Hebrews who expected him who was to descend from Abraham and David, says the lineage of Jesus Christ, son of David, son of Abraham." It must be observed, that the Greek word παραδοσις does not exactly correspond to the English word *tradition*, which signifies any thing delivered orally from age to age. Παραδοσις properly implies any thing transmitted from former ages, whether by oral or written testimony. In this acceptation we find it used in scripture†: "Hold the traditions (τα παραδοσεις) which ye have been taught, whether by word or our epistle."‡ The next authority to which we shall have recourse is that of Irenæus bishop of Lyons, who had been a disciple of Polycarp. He says in the only book of his extant, that "Matthew, among the Hebrews, wrote a

Euseb. Hist. lib. 5. cap. 2.

(E) We shall here subjoin, as a curiosity, what the anonymous author terms *the Old and New Testament dissected*. It contains an enumeration of all the books, chapters, verses, words, and letters, which occur in the English Bible and Apocrypha. It is said to have occupied three years of the author's life, and is a singular instance of the trifling employments to which superstition has led mankind.

The OLD and NEW TESTAMENT dissected:

Books in the Old	39	in the New	27	Total	66	Apocrypha.
Chapters	929	260		1189	Chapters	183
Verses	23,214	7959		31,173	Verses	6081
Words	592,439	181,253		773,692	Words	152,185
Letters	2,728,100	838,380		3,566,480		

The middle Chapter and the least in the Bible is Psalm 117.

The middle Verse is the 8th of the 118th Psalm.

The middle time is the 2d of Chronicles, 4th Chap. 16th Verse.

The word *And* occurs in the Old Testament 35,543 times.

The same in the New Testament occurs 10,684 times.

The word *JEHOVAH* occurs 6855 times.

OLD TESTAMENT.

The middle Book is Proverbs.

The middle Chapter is Job 29th.

The middle Verse is 2d Chron. 20th Chap. between 17th and 18th Verses.

The least Verse is 1 Chron. 1st Chap. and 1st Verse.

NEW TESTAMENT.

The middle Book is Thessalonians 2d.

The middle Chapter is between the 13th and 14th Romans.

The middle Verse is 17th Chap. Acts, 17th Verse.

The least Verse is 11th Chap. John, Verse 35.

The 21st Verse of the 7th Chapter of Ezra has all the letters of the alphabet.

The 19th Chapter of 2d of Kings and 37th of Isaiah are alike.

Scripture. gospel in their own language, whilst Peter and Paul were preaching the gospel at Rome and founding the church there."

To the testimony of these writers it may be objected, that, except Irenæus, they all lived in the third and fourth centuries, and consequently their evidence is of little importance. But there is such unanimity in the testimony, that it must have been derived from some authentic source. And is it fair to question the veracity of respectable men merely because we knew not from what writings they received their information? Many books which were then extant are now lost; and how do we know but these might have contained sufficient evidence? Irenæus at least had the best opportunities of information, having been well acquainted in his youth with Polycarp, the disciple of John; no objection can therefore be made to his evidence. But we can quote an authority still nearer the times of the apostles. Papias bishop of Hierapolis, in Cæsarea, who flourished about A. D. 116, affirms that Matthew wrote his gospel in the Hebrew tongue, which every one interpreted as he was able §. Papias was the companion of Polycarp, and besides must have been acquainted with many persons who lived in the time of the apostles. The fact therefore is fully established, that Matthew, the apostle of our Saviour, was the author of that gospel which is placed first in our editions of the New Testament.

§ Euseb.
Hist. Eccl.
lib. 3. cap.
39.

143
Language
in which
it was
written.

The next subject of inquiry respects the language in which it was written. This we are assured by Papias, by Irenæus, and Origen, was the Hebrew; but the truth of this fact has been disputed by Erasmus, Whitby, and others. Whitby urges the improbability that Providence would have suffered the original of this gospel to be lost, and nothing to remain but a translation. This is an argument of no force against written testimony; indeed we are always in danger of drawing false conclusions when we argue from our own opinions of the conduct of Providence. *For His ways are not as our ways, nor His thoughts as our thoughts.* But though we are forced to acknowledge that the gospel according to Matthew which we possess is a translation, it is evidently a close one; and the very circumstance that it has superseded the original, is a clear proof that it was thought equally valuable by the ancient Christians. It is necessary to remark, that the language in which the gospel according to Matthew was originally composed, and which is called Hebrew by Papias, Irenæus, and Origen, is not the same with the Hebrew of the Old Testament: it was what Jerome very properly terms Syro-Chaldaic, having an affinity to both languages, but much more to the Chaldean than to the Syrian.

144
Date,

The time when this gospel was composed has not been precisely ascertained by the learned. Irenæus says that "Matthew published his gospel when Peter and Paul were preaching at Rome." Now Paul arrived at Rome A. D. 60 or 61, and it is very probable suffered martyrdom in A. D. 65. This may be justly concluded from comparing the relation of Tacitus with that of Orosius, a writer of the fifth century. Orosius having given an account of Nero's persecution of the Christians, and of the death of the two apostles in it, adds, that it was followed by a pestilence in the city, and other disasters. And Tacitus relates that a pestilence prevailed

Zardner's
Hist. of the
Apostles.

in the city, and violent storms took place in Italy, in the year of Christ 65. Matthew's gospel was therefore written between the year 60 and 65.

That this history was primarily intended for the use of the Jews, we have, besides historical evidence, very strong presumptions from the book itself. Every circumstance is carefully pointed out which might conciliate the faith of that nation; every unnecessary expression is avoided, which might in any way serve to obstruct it. To come to particulars, there was no sentiment relating to the Messiah with which the Jews were more strongly possessed, than that he must be of the race of Abraham, and of the family of David. Matthew, therefore, with great propriety, begins his narrative with the genealogy of Jesus. That he should be born at Bethlehem in Judea, is another circumstance in which the learned among the Jews were universally agreed. His birth in that city, with some very memorable circumstances that attended it, this historian has also taken the first opportunity to mention. Those passages in the prophets, or other sacred books, which either foretel any thing that should happen to him, or admit an allusive appellation, or were in that age generally understood to be applicable to events which respect the Messiah, are never passed over in silence by this Evangelist. The fulfilment of prophecy was always to the Jews, who were convinced of the inspiration of their sacred writings, strong evidence. Accordingly none of the Evangelists has been more careful than Matthew, that nothing of this kind should be overlooked.

145
And design
of it.

Dr Camp-
bell's Pre-
face to
Matthew's
Gospel.

That which chiefly distinguishes Matthew's writings from those of the other Evangelists, is the minute and distinct manner in which he has related many of our Lord's discourses and moral instructions. Of these his sermon on the mount, his charge to the apostles, his illustrations of the nature of his kingdom, and his prophecy on mount Olivet, are examples. He has also wonderfully united simplicity and energy in relating the replies of his master to the cavils of his adversaries. Being early called to the apostleship, he was an eye and ear witness of most of the things which he relates. And there are circumstances which incline Dr Campbell to think that Matthew has approached as near the precise order of time in which the events happened as any of the Evangelists.

146
Distin-
guishing
character.

Concerning the life of the apostle Matthew we have nothing to add, as the principal circumstances in his life have already been mentioned. See MATTHEW.

The Gospel according to Matthew is cited seven times in the epistle of Barnabas, twice in the first epistle of Clemens Romanus to the Corinthians, eight times in the Shepherd of Hermas, six times in Polycarp's small epistle to the Philippians, and seven times in the smaller epistles of Ignatius. These citations may be seen at full length in *Jones's New and Full Method of settling the Canon*, with the parallel passages in the gospel according to Matthew.

That Mark was the author of the gospel which bears his name, and that it was the second in the order of time, is proved by the unanimous testimony of the ancient Christians. Many authorities are therefore unnecessary; we shall only mention those of Papias and Irenæus. Eusebius has preserved the following passage of Papias: "This is what was related by the elder (that is, John, not the apostle, but a disciple of Jesus); Mark

147
Gospel ac-
cording to
St Mark.

148
Its authen-
ticity,

(that Hist. Eccl.
lib. 3. cap.
39.
being

Scripture. being Peter's interpreter wrote exactly whatever he remembered, not indeed in the order wherein things were spoken and done by the Lord; for he was not himself a hearer or follower of our Lord; but he afterwards, as I said, followed Peter who gave instructions as suited the occasions, but not as a regular history of our Lord's teaching. Mark, however, committed no mistake in writing such things as occurred to his memory: for of this one thing he was careful, to omit nothing which he had heard, and to insert no falsehood into his narrative." Such is the testimony of Papias, which is the more to be regarded as he assigns his authority. He spake not from hearsay, but from the information which he had received from a most credible witness, John the elder, or presbyter, a disciple of Jesus, and a companion of the apostles.

149
And date.

Adv. Hoer.
lib. 3. cap.
1.

Irenæus, after telling us that Matthew published his gospel whilst Peter and Paul were preaching at Rome, adds: "After their departure (*ἐξόδου*), Mark also, the disciple and interpreter of Peter, delivered to us in writing the things which had been preached by Peter." The Greek *ἐξόδου*, like the English word *departure*, may either denote death, which is a departure out of the world, or mean a departure out of the city. It is probably in the former of these senses it is here used. Yet by the accounts given by some others, Mark's gospel was published in Peter's lifetime, and had his approbation. The gospel of Mark is supposed to be but two years posterior in date to that of Matthew. The precise year, however, cannot be determined with certainty; and it is a matter of no importance, since we have ascertained the author and the time in which he lived.

Mark has generally been supposed to be the same person who is mentioned in the acts and some of Paul's epistles, who is called John, and was the nephew of Barnabas. But as this person was the attendant of Paul and Barnabas, and is nowhere in scripture said to have accompanied Peter in his apostolical mission, which ancient writers inform us the author of the gospel did, Dr Campbell has justly concluded that these were different persons. The author of the gospel is certainly meant by Peter when he says *Marcus my son saluteth you* ||.

Preface to
Mark.

|| 1 Pet. v.

13.
150
Language
in which it
was writ-
ten.

That Mark wrote his gospel in Greek, is as evident as that Matthew wrote his in Hebrew or Syro-Chaldaic. The cardinals Baronius and Bellarmine, anxious to exalt the language in which the vulgate was written, have maintained that this Evangelist published his work in Latin. The only appearance of testimony which has been produced in support of this opinion is the inscription subjoined to this gospel in Syriac, and in some other oriental versions. But these postscripts are not the testimonies of the translators: they proceed from the conjecture of some transcriber; but when written, or by whom, is equally unknown. Against positive testimony therefore they are entitled to no credit.

151
Design of
it.

From the Hebraisms in the style, we should readily conclude that the author was by birth and education a Jew. There are also expressions which show that he had lived for some time among the Latins, as *κεντυριαν*, "centurion," and *σπευλατωρ*, "sentinel;" words which do not occur in the other Gospels. There are other internal evidences that this gospel was written be-

yond the confines of Judea. The first time the Jordan is mentioned, *ποταμος*, "river," is added to the name for explanation; for though no person in Judea needed to be informed that Jordan was a river, the case was different in distant countries. The word *Gebenna*, which is translated *Hell* in the New Testament, originally signified the *Valley of Hinnom*, where infants had been sacrificed by fire to Moloch, and where a continual fire was afterwards kept up to consume the filth of Jerusalem. As this word could not have been understood by a foreigner, the Evangelist adds, by way of explanation, *πυρ το ασβεστον*, "the unquenchable fire." Instead of the word *Mammon*, he uses the common term *χρηματα* "riches." When he employs the oriental word *Corbon*, he subjoins the interpretation *δωρον*, that is, "a gift." These peculiarities will corroborate the historical evidence that has been already mentioned, that Mark intended his gospel for the use of the Gentiles.

It has been affirmed that this evangelist is the abridger of Matthew. It is true that Mark sometimes copies the expressions used by Matthew; but he is not to be considered as a mere abridger, for he omits altogether several things related by Matthew, viz. our Lord's pedigree, his birth, the visit of the Magians, Joseph's flight into Egypt, and the cruelty of Herod. Dr Lardner has given a list of thirty-three passages, wherein circumstances are related which are omitted by the other evangelists. There is one parable, and an account of two miracles peculiar to Mark. The parable or similitude is mentioned in chap. iv. 26. One of these miracles was the curing of a deaf and dumb man, chap. vii. 31, 37. The other was the giving sight to a blind man at Bethsaida, chap. viii. 22, 26. The style of Mark, instead of being more concise than that of Matthew, is more diffuse. That he had read Matthew's gospel cannot be doubted, but that he abridged it, is a mistake.

According to the testimony which has been already produced, Mark derived his information from the apostle Peter. It would be improper, therefore, not to remark, that this evangelist has omitted many things tending to Peter's honour, which are related in the other gospels, and has given the most particular account of Peter's fall. This gospel is seven times cited by Irenæus, and nine times by Tertullian.

That the author of the gospel which is the third in order was Luke, the companion of the apostle Paul, is evident from the testimonies of Irenæus, Clemens of Alexandria, Origen, Tertullian, and many succeeding writers. But it has been disputed whether he was a Jew or a Gentile. That Luke was a Jew by birth, or at least by religion, may be argued from his being a constant companion of Paul. If he had been an uncircumcised Gentile, exceptions would have been made to him, especially at Jerusalem; but nothing of that kind appears. It is also rendered highly probable, from his mode of computing time by the Jewish festivals, and from his frequent use of the Hebrew idiom. It has been supposed that Luke was one of the 70 disciples; but he does not pretend to have been a witness of our Lord's miracles and teaching; on the contrary, he tells us in his introduction, that he received his information from others.

The design of Luke in writing his gospel was to supplement the others.

155
Design of
perfecting it.

152

Mark not
the abridger
of
Matthew.

153

But derived
his information
from Peter.

154

Gospel according
to St Luke.

Scripture. perſede ſome imperfect and inaccurate hiſtories of our Saviour, which had then been publiſhed. What theſe were, it is impoſſible now to determine, as they are not mentioned by any contemporary writer, and probably did not ſurvive the age in which they were compoſed.

156
From what
ſource of
informa-
tion it was
derived.

It has been ſuppoſed that Luke chiefly derived his information from the apoſtle Paul, whom he faithfully attended in his travels; but, from Luke's own words, we are led to conclude, that the principal ſource of his intelligence, as to the facts related in the goſpel, was from thoſe who had been eye and ear witneſſes of what our Lord both did and taught. Now Paul evidently was not of this number. It was from converſing with ſome of the twelve apoſtles or diſciples of our Lord, who heard his diſcourſes and ſaw his miracles, that he obtained his information.

As to the time when this goſpel was written, we have hardly any thing but conjecture to guide us. But as Origen, Euſebius, and Jerome, have ranged it after thoſe of Matthew and Mark, we have no reaſon to doubt but they were written in the ſame order.

157
Has ſup-
plied ma-
ny omiſ-
ſions of
the two
former
goſpels.

The goſpel by Luke has ſupplied us with many intereſting particulars which had been omitted both by Matthew and Mark. It has given a diſtinct narration of the circumſtances attending the birth of John the Baptiſt and the nativity of our Saviour. It has given an account of ſeveral memorable incidents and cures which had been overlooked by the reſt; the converſion of Zaccheus the publican; the cure of the woman who had been bowed down for 18 years; the cure of the dropſical man; the cleaning of the ten lepers; the inhospitable treatment of our Saviour by the Samaritans, and the inſtructive rebuke which he gave on that occaſion to two of his diſciples for their intemperate zeal; alſo the affecting interview which he had after his reſurrection with two of his diſciples. Luke has alſo added many edifying parables to thoſe which the other evangelists had recorded. Moſt of theſe are ſpecified by Irenæus as particularly belonging to this goſpel, and has thereby ſhown to us, without intending it, that the goſpel of Luke was the ſame in his time that it is at preſent.

158
Style and
compoſi-
tion of it.

The ſtyle of this evangelist abounds as much with Hebraiſms as any of the ſacred writings, but it contains more of the Grecian idiom than any of them. It is alſo diſtinguiſhed by greater variety and copiouſneſs; qualities which may be juſtly aſcribed to the ſuperior learning of the author. His occupation as a phyſician would naturally induce him to employ ſome time in reading, and give him eaſier acceſs to the company of the great than any of the other evangelists. As an inſtance of Luke's copiouſneſs, Dr Campbell has remarked that each of the evangelists has a number of words which are uſed by none of the reſt; but in Luke's goſpel the number of ſuch peculiarities or words, uſed in none of the other goſpels, is greater than that of the peculiar words found in all the three other goſpels put together; and that the terms peculiar to Luke are for the moſt part long and compound words. The ſame judicious writer has alſo obſerved, that there is more of compoſition in Luke's ſentences than is found in the other three, and conſequently leſs ſimplicity. Of this the very firſt ſentence is an example, which occupies no leſs than four verſes. Luke, too, has a greater re-

ſemblance to other hiſtorians, in giving what may be called his own verdict in the narrative part of this work; a freedom which the other evangelists have ſeldom or never ventured to uſe. He calls the Pharifees *lovers of money*: in diſtinguiſhing Judas Iſcariot from the other Judas, he uſes the phraſe, *he who proved a traitor*, (*ὁς καὶ ἐγένετο προδότης*). Matthew and Mark expreſs the ſame ſentiment in milder language, "he who delivered him up." In recording the moral inſtructions of our Lord, eſpecially his parables, this evangelist has united an affecting ſweetneſs of manner with genuine ſimplicity.

This goſpel is frequently cited by Clemens Romanus, the contemporary of the Apoſtles, by Ignatius, and Justin Martyr. Irenæus has made above a hundred citations from it. In his *lib. 3. adv. Hæref. c. 14.* he vindicates the authority and perfection of Luke's goſpel, and has produced a collection of thoſe facts which are only recorded by this evangelist.

That the goſpel which is placed laſt in our editions of the New Teſtament was written by John, one of our Saviour's apoſtles, is confirmed by the unanimous testimony of the ancient Chriſtians. He was the ſon of Zebedee, a fiſherman of Bethſaida in Galilee, by his wife Salome, and the brother of James, ſurnamed the elder or greater. He was the beloved diſciple of our Saviour, and was honoured, along with Peter and James, with many marks of diſtinction which were not conferred on the other diſciples. He poſſeſſed a high degree of intrepidity and zeal, a warm and affectionate heart, and was ſtrongly attached to his maſter. His brother James and he were honoured with the title of Boanerges, or *Sons of Thunder*. He was anxious to refrain whatever he conſidered as a mark of diſreſpect againſt his maſter, and to puniſh his enemies with ſeverity. He was incenſed againſt ſome perſons for attempting to caſt out demons in the name of Jeſus; and required them to deſiſt becauſe they were not his diſciples. James and he propoſed to our Saviour to call down fire from heaven to puniſh the inhospitable Samaritans. Nor was the courage of John leſs ardent than his zeal. When Peter had diſowned his Lord, and all the other diſciples had fled, John continued to attend his maſter. He was preſent at his trial, and followed him to the croſs, where he was a ſpectator of his ſufferings and death. The interview between Jeſus and this diſciple at Calvary, though concisely related, is an event which will ſtrongly affect every man of feeling, while it convinces him of the unalterable affection of Jeſus to his beloved diſciple, as well as diſcovers his reſpectful tendereſs for his mother. See JOHN.

The ancients inform us, that there were two motives which induced John to write his goſpel: the one, that he might refute the heresies of Cerinthus and the Nicolaitans, who had attempted to corrupt the Chriſtian doctrine; the other motive was, that he might ſupply thoſe important events in the life of our Saviour which the other evangelists had omitted. Of the former of theſe motives Irenæus gives us the following account: "John, deſirous to extirpate the errors ſown in the minds of men by Cerinthus, and ſome time before by thoſe called Nicolaitans, publiſhed his goſpel; wherein he acquaints us that there is one God, who made all things by his word, and not, as they ſay, one who is the Creator of the world, and another who is the father of

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Motives
for writ-
ing it.

Scripture. of the Lord; one the son of the Creator, and another the Christ, from the supercelestial abodes who descended upon Jesus, the son of the Creator, but remained impassible, and afterwards fled back into his own plenitude or fulness." As Irenæus is the most ancient author who has written upon this subject, many appeals have been made to his authority. The authority of Irenæus is certainly respectable, and we have often referred to his testimony with confidence; but we think it necessary to make a distinction between receiving his testimony to a matter of fact, and implicitly adopting his opinion. He does not tell us, that he derived his information from any preceding writer, or indeed from any person at all. Nay, he seems to have believed that John wrote against these heresies by a prophetic spirit; for he says in another place, chap. xx. 30. "As John the disciple of our Lord assures us, saying, But these are written, that ye might believe that Jesus is the Christ, the Son of God, and that believing ye might have life through his name; *FORESEEING these blasphemous notions that divide the Lord, so far as it is in their power.*"

162
Not to
confute
heretics;

Indeed it seems very improbable that an apostle should write a history of our Lord on purpose to confute the wild opinions of Cerinthus or any other heretic. Had John considered such a confutation necessary, it is more likely that he would introduce it into an epistle than blend it with the actions of his venerable Master. But were the opinion of Irenæus well-founded, we should surely discover some traces of it in the gospel of John; yet except in the introduction, there is nothing that can with the least shadow of probability be applied to the opinions of Cerinthus; and few, we presume, will affirm, that the gospel of John was composed merely for the sake of the first eighteen verses.

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But to
prove that
Jesus was
the Mes-
siah the
Son of
God.

* John xv.
24.

The intention of John in writing his gospel was far more extensive and important than to refute the opinions of a few men who were to sink into oblivion in the course of a few centuries. It was evidently (according to the opinion of Clemens of Alexandria) to supply the omissions of the other evangelists: It was to exhibit the evidences of the Christian religion in a distinct and perspicuous manner: It was, as he himself in the conclusion of his gospel assures us, to convince his readers, *that Jesus is the Messiah, the Son of God, and that believing they might have life through his name* *. Now it will appear to any person who reads this gospel with attention, that he has executed his plan with astonishing ability, and has given the most circumstantial and satisfactory evidence that Jesus was the Messiah the Son of God. After declaring the pre-existence of Jesus, he proceeds to deliver the testimony of John the Baptist, and selects some of the greatest miracles of Jesus to prove his divine mission. In the fifth chapter he presents us with a discourse which our Saviour delivered in the temple in the presence of the Jews, wherein he states in a very distinct manner the proofs of his mission from, 1. The testimony of John; 2. His own miracles; 3. The declaration of the Father at his baptism;

4. The Jewish Scriptures. Indeed the conclusion that Jesus was the Messiah the Son of God, naturally arises from almost every miracle which our Saviour is said to have performed and from every discourse that he delivered. This declaration is very often made by our Saviour himself; particularly to the woman of Samaria, to Nicodemus, and to the blind man whom he had cured.

It must be evident to every reader, that John studiously passes over those passages in our Lord's history and teaching which had been treated at large by the other evangelists, or if he mentions them at all he mentions them slightly. This confirms the testimony of ancient writers, that the first three gospels were written and published before John composed his gospel. Except the relation of our Saviour's trial, death, and resurrection, almost every thing which occurs in this book is new. The account of our Saviour's nativity, of his baptism, and of his temptation in the wilderness, is omitted; nor is any notice taken of the calling of the twelve apostles, or of their mission during our Saviour's life. It is remarkable, too, that not one parable is mentioned, nor any of the predictions relating to the destruction of Jerusalem. All the miracles recorded by the other evangelists are passed over, except the miraculous supply of provision, by which five thousand were fed: and it is probable that this miracle was related for the sake of the discourse to which it gave birth. The other miracles which are mentioned are few in number, but in general they are minutely detailed. They consist of these: the turning of water into wine at Cana; the cure of the diseased man at the pool of Bethesda; the cure of the man that had been blind from his birth; the restoring of Lazarus to life; and the healing of the servant's ear which Peter had cut off. But valuable would this gospel be, though it had only recorded the consolation of Jesus to his disciples previous to his departure; which exhibits a most admirable view of our Saviour's character, of his care and tender regard for his disciples. Having opened every source of comfort to their desponding minds; exhorted them to mutual love, and to the obedience of his Father's precepts; having warned them of the impending dangers and sorrows—our Saviour concludes with a prayer, in the true spirit of piety and benevolence; ardent without enthusiasm, sober and rational without lukewarmness.

The time in which this gospel was written has not been fixed with any precision. Irenæus informs us, that it was written at Ephesus, but leaves us to conjecture whether it was written before or after John's return from Patmos. He was banished to Patmos by Domitian, who reigned 15 years, and according to the best computation died A. D. 96. The persecution which occasioned the exile of John commenced in the 14th year of Domitian's reign. If John wrote his gospel after his return to Ephesus, which is affirmed by Epiphanius to have been the case, we may fix the date of it about the year 97 (r).

This gospel is evidently the production of an illiterate.

(r) It has been argued from a passage in this gospel, that it must have been written before the destruction of Jerusalem. In speaking of the pool of Bethesda, John uses the present tense: His words are, "There is at Jerusalem."

Scripture. rate Jew, and its style is remarkable for simplicity. It abounds more with Hebraisms than any of the other gospels; and contains some strong oriental figures which are not readily understood by an European.

167
Often quoted by ancient Christians.

168
Acts of the apostles.

This gospel is cited once by Clemens Romanus, by Barnabas three times, by Ignatius five times, by Justin Martyr six times, by Irenæus, and above forty times by Clemens Alexandrinus.

The book which we intitle the Acts of the Apostles connects the gospels and the epistles. It is evidently a continuation of Luke's gospel, which appears both from the introduction and from the attestations of ancient Christians. Both are dedicated to Theophilus; and in the beginning of the Acts a reference is made to his gospel, which he calls a *former treatise*, recording the actions and discourses of Jesus till his ascension to heaven. Luke is mentioned as the author of the Acts of the Apostles by Irenæus, by Tertullian, by Origen, and Eusebius.

From the frequent use of the first person plural, it is manifest that Luke the author was present at many of the transactions which he relates. He appears to have accompanied Paul from Troas to Philippi. He attended him also to Jerusalem, and afterwards to Rome, where he remained for two years. He is mentioned by Paul in several of those epistles which were written from Rome, particularly in the 2d epistle to Timothy, and in the epistle to Philemon.

This book contains the history of the Christian church for the space of about 28 or 30 years, from the time of our Saviour's ascension to Paul's arrival at Rome in the year 60 or 61. As it informs us that Paul resided two years in Rome, it must have been written after the year 63; and as the death of Paul is not mentioned, it is probable it was composed before that event, which happened A. D. 65.

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Contents of that book.

The Acts of the Apostles may be divided into seven parts. 1. The account of our Saviour's ascension, and of the occurrences which happened on the first Pentecost after that event, contained in chap. i. ii. 2. The transactions of the Christians of the circumcision at Jerusalem, in Judea, and Samaria, chap. iii.—ix. xii. 1—21. xii. 3. Transactions in Cæsarea, and the admission of the Gentiles, chap. x. 4. The first circuit of Barnabas and Paul among the Gentiles, chap. xi. 22. xiii. xiv. 5. Embassy to Jerusalem, and the first council held in that city, chap. xv. 6. Paul's second journey, chap. xvi.—xxi. 7. His arrestment, trial, appeal to Cæsar, and journey to Rome, chap. xxi. to the end of the book.

170
Often cited by the early Christians.

The Acts of the Apostles are cited by Clemens Romanus, by Polycarp, by Justin Martyr, thirty times by Irenæus, and seven times by Clemens Alexandrinus.

171
The epistles.

All the essential doctrines and precepts of the Christian religion were certainly taught by our Saviour himself, and are contained in the gospels. The epistles may be considered as commentaries on the doctrines of the gospel, addressed to particular societies, accommodated to their respective situations; intended to refute the

errors and false notions which prevailed among them, and to inculcate those virtues in which they were most deficient.

The plan on which these LETTERS are written is, first, to decide the controversy, or refute the erroneous notions which had arisen in the society to which the epistle was addressed: And, secondly, to recommend those duties which their false doctrines might induce them to neglect; at the same time inculcating in general exhortations the most important precepts of Christian morality.

Of the epistles fourteen were written by St Paul. These are not placed according to the order of time in which they were composed, but according to the supposed precedence of the societies or persons to whom they were addressed. It will be proper therefore to exhibit here their chronological order according to Dr Lardner.

A TABLE of St PAUL'S EPISTLES, with the Places where, and times when, written, according to Dr Lardner.

Epistles.	Places.	A. D.
1 Thessalonians	Corinth	52
2 Thessalonians	Corinth	52
Galatians	Corinth or Ephesus	near the end of 52 or beginning of 53
1 Corinthians	Ephesus	the beginning of 53
1 Timothy	Macedonia	56
Titus	Macedonia or near it	bef. the end of 56
2 Corinthians	Macedonia	about October 57
Romans	Corinth	about February 58
Ephesians	Rome	about April 61
2 Timothy	Rome	about May 61
Philippians	Rome	bef. the end of 62
Colossians	Rome	bef. the end of 62
Philemon	Rome	bef. the end of 62
Hebrews	Rome or Italy	in Spring of 63

A TABLE of the CATHOLIC EPISTLES and the REVELATION, according to Dr Lardner.

Epistle.	Place.	A. D.
James	Judea	61
The two Epistles of Peter	Rome	or beg. of 62
1 John	Ephesus	64
2d and 3d of John	Ephesus	about 80
Jude	Unknown	between 80 and 90
Revelation	Patmos or Ephesus	64 or 65
		95 or 96

It is more difficult to understand the epistolary writings than the gospels; the cause of which is evident. Many things are omitted in a letter, or slightly mentioned because supposed to be known by the person to whom it is addressed. To a stranger this will create much difficulty.

Jerusalem." Now if these words had been written after the destruction of Jerusalem, it is urged the past tense would have been used, and not the present. This argument is more specious than forcible. Though Jerusalem was demolished, does it follow that the pool of Bethesda was dried up?

Scripture. difficulty. The business about which St Paul wrote was certainly well known to his correspondents; but at this distance of time we can obtain no information concerning the occasion of his writing, of the character and circumstances of those persons for whom his letters were intended, except what can be gleaned from the writings themselves. It is no wonder, therefore, tho' many allusions should be obscure. Besides, it is evident from many passages that he answers letters and questions which his correspondents had sent him. If these had been preserved, they would have thrown more light upon many things than all the notes and conjectures of the commentators.

175
Causes of
obscurity
peculiar to
St Paul's
epistles.

The causes of obscurity which have been now mentioned are common to all the writers of the epistles; but there are some peculiar to St Paul. 1. As he had an acute and fertile mind, he seems to have written with great rapidity, and without attending much to the common rules of method and arrangement. To this cause we may ascribe his numerous and long parentheses. In the heat of argument he sometimes breaks off abruptly to follow out some new thought; and when he has exhausted it, he returns from his digression without informing his readers; so that it requires great attention to retain the connection. 2. His frequent change of person, too, creates ambiguity: by the pronoun *I* he sometimes means himself; sometimes any Christian; sometimes a Jew, and sometimes any man. In using the pronoun *we* he sometimes intends himself, sometimes comprehends his companions, sometimes the apostles; at one time he alludes to the converted Jews, at another time to the converted Gentiles. 3. There is a third cause of obscurity; he frequently proposes objections, and answers them without giving any formal intimation. There are other difficulties which arise from our uncertainty who are the persons he is addressing, and what are the particular opinions and practices to which he refers. To these we may add two external causes, which have increased the difficulty of understanding the epistles. 1. The dividing them into chapters and verses, which dissolves the connection of the parts, and breaks them into fragments. If Cicero's epistles had been so disjointed, the reading of them would be attended with less pleasure and advantage, and with a great deal more labour. 2. We are accustomed to the phraseology of the epistles from our infancy; but we have either no idea at all when we use it, or our idea of it is derived from the articles or system which we have espoused. But as different sects have arbitrary definitions for St Paul's phrases, we shall never by following them discover the meaning of St Paul, who certainly did not adjust his phraseology to any man's system.

The best plan of studying the epistles is that which was proposed and executed by Mr Locke. This we shall present to our readers in the words of that acute and judicious author.

176
Mr Locke's
plan of stu-
dying the
epistles.

"After I had found by long experience, that the reading of the text and comments in the ordinary way proved not so successful as I wished to the end proposed, I began to suspect that in reading a chapter as was usual, and thereupon sometimes consulting expositors upon some hard places of it, which at that time most affected me, as relating to points then under consideration in my own mind, or in debate amongst others, was

not a right method to get into the true sense of these *Scripture.* epistles. I saw plainly, after I began once to reflect on it, that if any one should write me a letter as long as St Paul's to the Romans, concerning such a matter as that is, in a style as foreign, and expressions as dubious as his seem to be, if I should divide it into fifteen or sixteen chapters, and read one of them to-day, and another to-morrow, &c. it is ten to one I should never come to a full and clear comprehension of it. The way to understand the mind of him that writ it, every one would agree, was to read the whole letter through from one end to the other all at once, to see what was the main subject and tendency of it: or if it had several views and purposes in it, not dependent one of another, nor in a subordination to one chief aim and end, to discover what those different matters were, and where the author concluded one, and began another; and if there were any necessity of dividing the epistle into parts, to make the boundaries of them.

"In the prosecution of this thought, I concluded it necessary, for the understanding of any one of St Paul's epistles, to read it all thro' at one sitting, and to observe as well as I could the drift and design of his writing it. If the first reading gave me some light, the second gave me more; and so I persisted on reading constantly the whole epistle over at once till I came to have a good general view of the apostle's main purpose in writing the epistle, the chief branches of his discourse wherein he prosecuted it, the arguments he used, and the disposition of the whole.

"This, I confess, is not to be obtained by one or two hasty readings; it must be repeated again and again with a close attention to the tenor of the discourse, and a perfect neglect of the divisions into chapters and verses. On the contrary, the safest way is to suppose that the epistle has but one business and one aim, till by a frequent perusal of it you are forced to see there are distinct independent matters in it, which will forwardly enough show themselves.

"It requires so much more pains, judgment, and application, to find the coherence of obscure and abstruse writings, and makes them so much the more unfit to serve prejudice and preoccupation when found; that it is not to be wondered that St Paul's epistles have with many passed rather for disjointed, loose, pious discourses, full of warmth and zeal, and overflows of light, rather than for calm, strong, coherent reasonings, that carried a thread of argument and consistency all through them."

Mr Locke tells us he continued to read the same epistle over and over again till he discovered the scope of the whole, and the different steps and arguments by which the writer accomplishes his purpose. For he was convinced before reading his epistles, that Paul was a man of learning, of sound sense, and knew all the doctrines of the gospel by revelation. The speeches recorded in the Acts of the Apostles convinced this judicious critic that Paul was a close and accurate reasoner: and therefore he concluded that his epistles would not be written in a loose, confused, incoherent style. Mr Locke accordingly followed the chain of the apostle's discourse, observed his inferences, and carefully examined from what premises they were drawn, till he obtained a general outline of any particular epistle. If every divine would follow this method, he would soon acquire such a know-
ledge

Scripture. ledge of Paul's style and manner, that he would peruse his other Epistles with much greater ease.

177
Epistle to
the Romans. That the Epistle to the Romans was written at Corinth by St Paul, is ascertained by the testimony of the ancient Christians. It was composed in the year 58, in the 24th year after Paul's conversion, and is the seventh epistle which he wrote. From the Acts of the

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Its date. Apostles we learn that it must have been written within the space of three months; for that was the whole period of Paul's residence in Greece, (Acts xx. 1, 2, 3.)

The following analysis of this epistle we have taken from a valuable little treatise, intitled A Key to the New Testament, which was written by Dr Percy bishop of Dromore. It exhibits the intention of the apostle, and the arguments which he uses to prove his different propositions, in the most concise, distinct, and connected manner, and affords the best view of this Epistle that we have ever seen.

179
General design. "The Christian church at Rome appears not to have been planted by any apostle; wherefore St Paul, lest it should be corrupted by the Jews, who then swarmed in Rome, and of whom many were converted to Christianity, sends them an abstract of the principal truths of the gospel, and endeavours to guard them against those erroneous notions which the Jews had of justification, and of the election of their own nation.

"Now the Jews assigned three grounds for justification. First, 'The extraordinary piety and merits of their ancestors, and the covenant made by God with these holy men.' They thought God could not hate the children of such meritorious parents: and as he had made a covenant with the patriarchs to bless their posterity, he was obliged thereby to pardon their sins. Secondly, 'A perfect knowledge and diligent study of the law of Moses.' They made this a plea for the remission of all their sins and vices. Thirdly, 'The works of the Levitical law,' which were to expiate sin, especially circumcision and sacrifices. Hence they inferred that the Gentiles must receive the whole law of Moses, in order to be justified and saved.

"The doctrine of the Jews concerning election was, 'That as God had promised to Abraham to bless his seed, to give him not only spiritual blessings, but also the land of Canaan, to suffer him to dwell there in prosperity, and to consider him as his church upon earth.' That therefore this blessing extended to their whole nation, and that God was bound to fulfil these promises to them, whether they were righteous or wicked, faithful or unbelieving. They even believed that a prophet ought not to pronounce against their nation the prophecies with which he was inspired; but was rather to beg of God to expunge his name out of the book of the living.

"These previous remarks will serve as a key to unlock this difficult Epistle, of which we shall now give a short analysis. See *Michaelis's Lectures on the New Testament*.

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And analysis of it. "I. The Epistle begins with the usual salutation with which the Greeks began their letters, (chap. i. 1—7.)

"II. St Paul professes his joy at the flourishing state of the church at Rome, and his desire to come and preach the gospel (ver. 8—19.): then he insensibly introduces the capital point he intended to prove, viz.

"III. The subject of the gospel (ver. 16, 17.), that it reveals a righteousness unknown before, which is de-

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Scripture. rived solely from faith, and to which Jews and Gentiles have an equal claim.

"IV. In order to prove this, he shows (chap. i. 18.—iii. 20.) that both Jews and Gentiles are 'under sin,' i. e. that God will impute their sins to Jews as well as to Gentiles.

"His arguments may be reduced to these syllogisms (ch. ii. 1. 17—24.) 1. 'The wrath of God is revealed against those who hold the truth in unrighteousness; i. e. who acknowledge the truth, and yet sin against it. 2. The Gentiles acknowledged truths; but, partly by their idolatry, and partly by their other detestable vices, they sinned against the truth they acknowledged. 3. Therefore the wrath of God is revealed against the Gentiles, and punisheth them. 4. The Jews have acknowledged more truths than the Gentiles, and yet they sin. 5. Consequently the Jewish sinners are yet more exposed to the wrath of God (ch. ii. 1—12.) Having thus proved his point, he answers certain objections to it. *Obj.* 1. 'The Jews were well grounded in their knowledge, and studied the law.' He answers, If the knowledge of the law, without observing it, could justify them, then God could not have condemned the Gentiles, who knew the law by nature, (ch. ii. 13—16.) *Obj.* 2. 'The Jews were circumcised.' *Ans.* That is, ye are admitted by an outward sign into the covenant with God. This sign will not avail you when ye violate that covenant (ch. ii. 25. to the end). *Obj.* 3. 'According to this doctrine of St Paul, the Jews have no advantage before others.' *Ans.* Yes, they still have advantages; for unto them are committed the oracles of God. But their privileges do not extend to this, that God should overlook their sins, which, on the contrary, Scripture condemns even in the Jews (ch. iii. 1—19.) *Obj.* 4. 'They had the Levitical law and sacrifices.' *Ans.* From hence is no remission, but only the knowledge of sin, (ch. iii. 20.)

"V. From all this St Paul concludes, that Jews and Gentiles may be justified by the same means, namely, without the Levitical law, through faith in Christ: And in opposition to the imaginary advantages of the Jews, he states the declaration of Zechariah, that God is the God of the Gentiles as well as of the Jews, (ch. iii. 21. to the end.)

"VI. As the whole blessing was promised to the faithful descendants of Abraham, whom both Scripture and the Jews call his children, he proves his former assertion from the example of Abraham; who was an idolater before his call, but was declared just by God, on account of his faith, long before his circumcision. Hence he takes occasion to explain the nature and fruits of faith, (ch. iv. 1. v. 11.)

"VII. He goes on to prove from God's justice, that the Jews had no advantages over the Gentiles with respect to justification. Both Jews and Gentiles had forfeited life and immortality, by the means of one common father of their race, whom they themselves had not chosen. Now as God was willing to restore immortality by a new spiritual head of a covenant, viz. Christ, it was just that both Jews and Gentiles should share in this new representative of the whole race (ch. v. 12. to the end).—Chap. v. ver. 15, 16. amounts to this negative question, 'Is it not fitting that the free gift should extend as far as the offence?'

X

VIII

Scripture. "VIII. He shows that the doctrine of justification, as stated by him, lays us under the strongest obligations of holiness, (ch. vi. 1. to the end.)

"IX. He shows that the law of Moses no longer concerns us at all; for our justification arises from our appearing in God's sight, as if actually dead with Christ on account of our sins; but the law of Moses was not given to the dead. On this occasion he proves at large, that the eternal power of God over us is not affected by this; and that whilst we are under the law of Moses we perpetually become subject to death, even by sins of inadvertency, (ch. vii. 1. to the end.)

"X. Hence he concludes, that all those, and those only, who are united with Christ, and for the sake of his union, do not live according to the flesh, are free from all condemnation of the law, and have an undoubted share in eternal life, (ch. viii. 1—17.)

"XI. Having described their blessedness, he is aware that the Jews, who expected a temporal happiness, should object to him, that Christians notwithstanding endure much suffering in this world. He answers this objection at large, (ch. viii. 18. to the end.)

"XII. He shows that God is not the less true and faithful, because he doth not justify, but rather rejects and punishes, those Jews who would not believe the Messiah, (ch. ix. x. xi.) In discussing this point, we may observe the cautious manner in which, on account of the Jewish prejudices, he introduces it (ch. ix. 1—5.), as well as in the discussion itself.

"He shows that the promises of God were never made to all the posterity of Abraham, and that God always reserved to himself the power of choosing those sons of Abraham whom, for Abraham's sake, he intended to bless, and of punishing the wicked sons of Abraham; and that with respect to temporal happiness or misery, he was not even determined in his choice by their works. Thus he rejected Ishmael, Esau, the Israelites in the desert in the time of Moses, and the greater part of that people in the time of Isaiah, making them a sacrifice to his justice, (ch. ix. 6—29.)

"He then proceeds to show that God had reason to reject most of the Jews then living, because they would not believe in the Messiah, though the gospel had been preached to them plainly enough, (ch. ix. 30. x. to the end). However, that God had not rejected all his people, but was still fulfilling his promise upon many thousand natural descendants of Abraham, who believed in the Messiah, and would in a future period fulfil them upon more; for that all Israel would be converted, (ch. xi. 1—32.) And he concludes with admiring the wise counsels of God, (ver. 33. to the end.)

"XIII. From the doctrine hitherto laid down, and particularly from this, that God has in mercy accepted the Gentiles; he argues, that the Romans should consecrate and offer themselves up wholly to God. This leads him to mention in particular some Christian duties, (ch. xii.), viz.

"XIV. He exhorts them to be subject to magistrates (ch. xiii. 1—7.); the Jews at that time being given to sedition.

"XV. To love one another heartily (ver. 2—10.) And,

"XVI. To abstain from those vices which were considered as things indifferent among the Gentiles, (ver. 11. to the end.)

"XVII. He exhorts the Jews and Gentiles in the Christian church to brotherly unity, (ch. xiv. 2. xv. 13.)

"XVIII. He concludes his Epistle with an excuse for having ventured to admonish the Romans, whom he had not converted; with an account of his journey to Jerusalem; and with some salutations to those persons whom he meant to recommend to the church at Rome." See *Michaelis's Lectures on the New Testament.*

Corinth was a wealthy and luxurious city, built upon the isthmus which joins the Morea to the northern parts of Greece. In this city Paul had spent two years founding a Christian church, which consisted of a mixture of Jews and Gentiles, but the greater part Gentiles.

About three years after the apostle had left Corinth, he wrote this Epistle from Ephesus in the year 56 or 57, and in the beginning of Nero's reign. That it was written from Ephesus, appears from the salutation with which the Epistle closes, (chap. xvi. 19.) "The churches of Asia salute you. Aquila and Priscilla salute you much in the Lord." From these words it is evident, in the 1st place, that the Epistle was written in Asia. 2dly, It appears from Acts xviii. 18, 19. that Aquila and Priscilla accompanied Paul from Corinth to Ephesus, where they seem to have continued till Paul's departure.

St Paul had certainly kept up a constant intercourse with the churches which he had founded; for he was evidently acquainted with all their revolutions. They seem to have applied to him for advice in those difficult cases which their own understanding could not solve; and he was ready on all occasions to correct their mistakes.

This Epistle consists of two parts. 1. A reproof for those vices to which they were most prone; 2. An answer to some queries which they had proposed to him.

The Corinthians, like the other Greeks, had been accustomed to see their philosophers divide themselves into different sects; and as they brought along with them into the Christian church their former opinions and customs, they wished, as before, to arrange themselves under different leaders. In this Epistle Paul condemns these divisions as inconsistent with the spirit of Christianity, which inculcates benevolence and unanimity, and as opposite to the conduct of Christian teachers, who did not, like the philosophers, aspire after the praise of eloquence and wisdom. They laid no claim to these nor to any honour that cometh from men. The apostle declares, that the Christian truths were revealed from heaven; that they were taught with great plainness and simplicity, and proved by the evidence of miracles, (chap. i. 1). He dissuades them from their divisions and animosities, by reminding them of the great trial which every man's work must undergo; of the guilt they incurred by polluting the temple or church of God; of the vanity of human wisdom; and of glorying in men. He admonishes them to esteem the teachers of the gospel only as the servants of Christ; and to remember that every superior advantage which they enjoyed was to be ascribed to the goodness of God, (chap. iii. 4).

2. In the fifth chapter the apostle considers the case of a notorious offender, who had married his stepmother;

Scripture. ther; and tells them, that he ought to be excommunicated. He also exhorts the Christians not to associate with any person who led such an openly profane life.

3. He censures the Corinthians for their litigious disposition, which caused them to prosecute their Christian brethren before the Heathen courts. He expresses much warmth and surprise that they did not refer their differences to their brethren; and concludes his exhortations on this subject, by assuring them that they ought rather to allow themselves to be defrauded than to seek redress from Heathens (chap. v. 1—9).

4. He inveighs against those vices to which the Corinthians had been addicted before their conversion, and especially against fornication, the criminality of which they did not fully perceive, as this vice was generally overlooked in the systems of the philosophers, (ch. vi. 10. to the end).

185
And answers certain questions which they had proposed to him. Having thus pointed out the public irregularities with which they were chargeable, he next replies to certain questions which the Corinthians had proposed to him by letter. He, 1. Determines some questions relating to the marriage state; as, 1st, Whether it was good to marry under the existing circumstances of the church? And, 2d, Whether they should withdraw from their partners if they continued unbelievers? (ch. vii).

2. He instructs them how to act with respect to idol offerings. It could not be unlawful in itself to eat the food which had been offered to idols; for the consecration of flesh or wine to an idol did not make it the property of the idol, an idol being nothing, and therefore incapable of property. But some Corinthians thought it lawful to go to a feast in the idol temples, which at the same time were places of resort for lewdness, and to eat the sacrifices whilst praises were sung to the idol. This was publicly joining in the idolatry. He even advises to abstain from such participation as was lawful, rather than give offence to a weak brother; which he enforces by his own example, who had abstained from many lawful things, rather than prove a scandal to the gospel, (chap. viii. ix. x.)

3. He answers a third query concerning the manner in which women should deliver any thing in public, when called to it by a divine impulse. And here he censures the unusual dress of both sexes in prophesying, which exposed them to the contempt of the Greeks, among whom the men usually went uncovered and the women veiled.

Being thus led to the consideration of the abuses that prevailed in their public worship, he goes on to censure the irregularities which were committed at their love-feasts, or, as we term them, the *Lord's Supper*. It was a common practice with the Greeks at their social suppers for every man to bring his own provisions along with him, not, however, to share them with the company, but to feast upon them in a solitary manner. Thus the rich ate and drank to excess, while the poor were totally neglected. The Corinthians introduced the same practice in the celebration of the *Lord's Supper*, thus confounding it with their ordinary meals, and without ever examining into the end of the institution. It was this gross abuse that Paul reproves in the 11th chapter. He also censures their conduct in the exercise of the extraordinary gifts of the Holy Ghost; he shows them they all proceeded from the same spirit, and

were intended for the instruction of Christian societies; that all Christians ought to be united in mutual love; and that tenderness ought to be shown to the most inconsiderable member, as every one is subservient to the good of the whole (chap. xii). In the 13th chapter he gives a beautiful description of benevolence, which has been much and justly admired. He represents it as superior to the supernatural gifts of the spirit, to the most exalted genius, to universal knowledge, and even to faith. In the 14th chapter he cautions the Corinthians against ostentation in the exercise of the gift of languages, and gives them proper advices.

4. He asserts the resurrection of the dead, in opposition to some of the Corinthians who denied it, founding it upon the resurrection of Jesus Christ, which he considers as one of the most essential doctrines of Christianity. He then answers some objections to the resurrection, drawn from our not being capable of understanding how it will be accomplished, (chap. xv.) He then concludes with some directions to the Corinthian church concerning the manner of collecting alms; promises them a visit, and salutes some of the members.

The second Epistle to the Corinthians was written from Macedonia in the year 57, about a year after the former. See 2 Cor. ix. 1—5. viii. and xiii. 1.

186
The second Epistle to the Corinthians. 187
State of the Corinthian church. St Paul's first Epistle had wrought different effects among the Corinthians: many of them examined their conduct; they excommunicated the incestuous man; requested St Paul's return with tears; and vindicated him and his office against the false teacher and his adherents. Others of them still adhered to that adversary of St Paul, expressly denied his apostolic office, and even furnished themselves with pretended arguments from that Epistle. He had formerly promised to take a journey from Ephesus to Corinth, thence to visit the Macedonians, and return from them to Corinth (2 Cor. i. 15, 16). But the unhappy state of the Corinthian church made him alter his intention (verse 23.), since he found he must have treated them with severity. Hence his adversaries partly argued, 1. That St Paul was irresolute and unsteady, and therefore could not be a prophet: 2. The improbability of his ever coming to Corinth again, since he was afraid of them. Such was the state of the Corinthian church when St Paul, after his departure from Ephesus, having visited Macedonia, (Acts xx. 1.) received an account of the above particulars from Titus (2 Cor. vii. 5, 6.), and therefore wrote them his second Epistle about the end of the same year, or the beginning of 58.

But to give a more distinct view of the contents of this Epistle:

188
View of the contents of this Epistle. 1. The apostle, after a general salutation, expresses his grateful sense of the divine goodness; professing his confidence in God, supported by a sense of his own integrity; makes an apology for not having visited the Corinthians as he had intended, and vindicates himself from the charge of fickleness, (chap. i).

2. He forgives the incestuous man, whose conduct had made so deep an impression on the apostle's mind, that one reason why he had deferred his journey to Corinth was, that he might not meet them in grief, nor till he had received advice of the effect of his apostolical admonitions. He mentions his anxiety to meet Titus at Troas, in order to hear of their welfare; expresses

Scripture. his thankfulness to God for the success attending his ministry, and speaks of the Corinthians as his credentials, written by the finger of God, (chap. ii. iii. 1—6.)

3. He treats of the office committed to him of preaching the redemption; and highly prefers it to preaching the law: to which probably his adversaries had made great pretences. They had ridiculed his sufferings; which he shows to be no disgrace to the gospel or its ministers; and here he gives a short abstract of the doctrine he preaches, (chap. iii. 6. v. to the end).

He expatiates with great copiousness on the temper with which, in the midst of afflictions and persecutions, he and his brethren executed their important embassy; and with great affection and tenderness he exhorts them to avoid the pollution of idolatry, (chap. vi.). He endeavours to win their confidence, by telling them how much he rejoiced in their amendment and welfare, and how sorry he had been for the distress which his necessary reproofs had occasioned, (chap. vii.). He then exhorts them to make liberal contributions for the Christians in Judæa. He recommends to them the example of the Macedonians, and reminds them of the benevolence of the Lord Jesus. He expresses his joy for the readiness of Titus to assist in making the collection; and makes also honourable mention of other Christian brethren, whom he had joined with Titus in the same commission, (chap. viii.). He then, with admirable address, urges a liberal contribution, and recommends them to the divine blessing, (chap. ix.).

4. Next he obviates some reflections which had been thrown upon him for the mildness of his conduct, as if it had proceeded from fear. He asserts his apostolical power and authority, cautioning his opponents against urging him to give too sensible demonstrations of it, (chap. x.). He vindicates himself against the insinuations of some of the Corinthians, particularly for having declined pecuniary support from the church; an action which had been ungenerously turned to his disadvantage. To show his superiority over those designing men who had opposed his preaching, he enumerates his sufferings; gives a detail of some extraordinary revelations which he had received; and vindicates himself from the charge of boasting, by declaring that he had been forced to it by the desire of supporting his apostolical character, (chap. xi. xii.). He closes the Epistle, by assuring them with great tenderness how much it would grieve him to demonstrate his divine commission by severer methods.

189
Epistle to
the Galatians.

The Galatians were descended from those Gauls who had formerly invaded Greece, and afterwards settled in Lower Asia. St Paul had preached the gospel among them in the year 51, soon after the council held at Jerusalem, (Acts xvi. 6). Asia swarmed at that time with zealots for the law of Moses, who wanted to impose it upon the Gentiles, (Acts xv. 1). Soon after St Paul had left the Galatians, these false teachers had got among them, and wanted them to be circumcised, &c. This occasioned the following Epistle, which Michaelis thinks was written in the same year, before St Paul left Thessalonica. Dr Lardner dates it about the end of the year 52, or in the very beginning of 53, before St Paul set out to go to Jerusalem by way of Ephesus.

190
The date

The subject of this Epistle is much the same with

that of the Epistle to the Romans; only this question is more fully considered here, "Whether circumcision, and an observance of the Levitical law, be necessary to the salvation of a Christian convert?" It appears, these Judaizing Christians, whose indirect views St Paul exposes (Acts xv. 1. Gal. v. 3, 9.), at first only represented circumcision as necessary to salvation; but afterwards they insisted upon the Christians receiving the Jewish festivals, (Gal. iv. 10).

As St Paul had founded the churches of Galatia, and instructed them in the Christian religion, he does not set before them its principal doctrines, as he had done in the Epistle to the Romans; but referring them to what he had already taught (chap. i. 8, 9.), he proceeds at once to the subject of the Epistle.

As it appears from several passages of this Epistle, particularly chap. i. 7, 8, 10. and chap. v. 11. that the Judaizing Christians had endeavoured to persuade the Galatians that Paul himself had changed his opinion, and now preached up the Levitical law; he denies that charge, and affirms that the doctrines which he had taught were true, for he had received them from God by immediate revelation. He relates his miraculous conversion; asserts his apostolical authority, which had been acknowledged by the disciples of Jesus; and, as a proof that he had never inculcated a compliance with the Mosaic law, he declares that he had opposed Peter at Antioch for yielding to the prejudices of the Jews.

Having now vindicated his character from the suspicion of fickleness, and shown that his commission was divine, he argues that the Galatians ought not to submit to the law of Moses: 1. Because they had received the Holy Ghost and the gifts of miracles, not by the law, but by the gospel, (chap. iii. 1—5). 2. Because the promises which God made to Abraham were not restricted to his circumcised descendants, but extended to all who are his children by faith, (chap. iii. 6—18). In answer to the objection, *To what then serveth the law?* he replies, That it was given because of transgression; that is, to preserve them from idolatry till the Messiah himself should come. 3. Because all men, whether Jews or Gentiles, are made the children of God by faith, or by receiving the Christian religion, and therefore do not stand in need of circumcision, (ch. iii. 26—29). From the 1st verse of chapter iv. to the 11th, he argues that the law was temporary, being only fitted for a state of infancy; but that the world, having attained a state of manhood under the Messiah, the law was of no farther use. In the remaining part of chap. iv. he reminds them of their former affection to him, and assures them that he was still their sincere friend. He exhorts them to stand fast in the liberty with which Christ had made them free; for the sons of Agar, that is, those under the law given at Mount Sinai, are in bondage, and to be cast out; the inheritance being designed for those only who are the free-born sons of God under the spiritual covenant of the gospel.

The apostle next confutes the false report which had been spread abroad among the Galatians, that Paul himself preached up circumcision. He had already directly refuted this calumny by the particular account which he gave of his life; but he now directly and openly contradicts it in the following manner:

3

1. By

Scripture.
191
And contents of it.

192
Arguments by which the apostle proves that the law of Moses was not obligatory on the Galatians.

Locke on the Epistles.

193
How he vindicates his own character from false aspersions.

Scripture.

1. By assuring them, that all who thought circumcision necessary to salvation could receive no benefit from the Christian religion, (chap. v. 2—4).

2. By declaring, that he expected justification only by faith, (ver. 5, 6).

3. By testifying, that they had once received the truth, and had never been taught such false doctrines by him, (ver. 7, 8).

4. By insinuating that they should pass some censure on those who misled them (ver. 9, 10.), by declaring that he was persecuted for opposing the circumcision of the Christians, (ver. 11).

5. By expressing a wish that those persons should be cut off who troubled them with his doctrine.

This Epistle affords a fine instance of Paul's skill in managing an argument. The chief objection which the advocates for the Mosaic law had urged against him was, that he himself preached circumcision. In the beginning of the Epistle he overturns this slander by a statement of facts, without taking any express notice of it; but at the end fully refutes it, that it might leave a strong and lasting impression upon their minds.

He next cautions them against an idea which his arguments for Christian liberty might excite, that it consisted in licentiousness. He shows them it does not consist in gratifying vicious desires; for none are under stronger obligations to moral duties than the Christian. He recommends gentleness and meekness to the weak (chap. vi. 1—5), and exhorts them to be liberal to their teachers, and unto all men (ver. 6—10). He concludes with exposing the false pretences of the Judaizing teachers, and asserting the integrity of his own conduct.

194
Epistle to
the Ephesi-
ans.

Ephesus was the chief city of all Asia on this side Mount Taurus. St Paul had passed through it in the year 54, but without making any stay, (Acts xviii. 19—21). The following year he returned to Ephesus again, and staid there three years, (chap. xix.) During his abode there he completed a very flourishing church of Christians, the first foundations of which had been laid by some inferior teachers. As Ephesus was frequented by persons of distinction from all parts of Asia Minor, St Paul took the opportunity of preaching in the ancient countries (ver. 10.); and the other churches of Asia were considered as the daughters of the church of Ephesus; so that an Epistle to the Ephesians was, in effect, an epistle to the other churches of Asia at the same time.

195
The date

Dr Lardner shows it to be highly probable that this Epistle was written in the year 61, soon after Paul's arrival at Rome.

196
And design
of it.

As Paul was in a peculiar manner the apostle of the Gentiles, and was now a prisoner at Rome in consequence of having provoked the Jews, by asserting that an observance of the Mosaic law was not necessary to obtain the favour of God, he was afraid lest an advantage should be taken of his confinement to unsettle the minds of those whom he had converted. Hearing that the Ephesians stood firm in the faith of Christ, without submitting to the law of Moses, he writes this Epistle to give them more exalted views of the love of God, and of the excellence and dignity of Christ. This Epistle is not composed in an argumentative or didactic style: The first three chapters consist almost entirely of thank-

givings and prayers, or glowing descriptions of the blessings of the Christian religion. This circumstance renders them a little obscure; but by the assistance of the two following epistles, which were written on the same occasion, and with the same design, the meaning of the apostle may be easily discovered. The last three chapters contain practical exhortations. He first inculcates unity, love, and concord, from the consideration that all Christians are members of the same body, of which Christ is the head. He then advises them to forsake the vices to which they had been addicted while they remained heathens. He recommends justice and charity; strenuously condemns lewdness, obscenity, and intemperance, vices which seem to have been too common among the Ephesians. In the 6th chapter he points out the duties which arise from the relations of husbands and wives, parents and children, masters and servants; and concludes with strong exhortations to fortitude, which he describes in an allegorical manner.

The church at Philippi had been founded by Paul, ¹⁹⁷ Epistle to the Philippians. Silas, and Timothy (Acts xvi.), in the year 51, and had continued to show a strong and manly attachment to the Christian religion, and a tender affection for the apostle. Hearing of his imprisonment at Rome, they sent Epaphroditus, one of their pastors, to supply him with money. It appears from this Epistle that he was in great want of necessaries before this contribution arrived; for as he had not converted the Romans, he did not consider himself as intitled to receive supplies from them. Being a prisoner, he could not work as formerly; and it was a maxim of his never to accept any pecuniary assistance from those churches where a faction had been raised against him. From the Philippians he was not averse to receive a present in the time of want, because he considered it as a mark of their affection, and because he was assured that they had conducted themselves as sincere Christians.

It appears from the apostle's own words, that this ¹⁹⁸ The date letter was written while he was a prisoner at Rome, (chap. i. 7, 13. iv. 22.); and from the expectation which he discovers (chap. ii. 24.) of being soon released and restored to them, compared with Philemon v. 22. and Heb. xiii. 13. where he expresses a like expectation in stronger terms, it is probable that this Epistle was written towards the end of his first imprisonment in the year 62.

The apostle's design in this Epistle, which is quite ¹⁹⁹ And design of it. of the practical kind, seems to be, "to comfort the Philippians under the concern they had expressed at the news of his imprisonment; to check a party-spirit that appears to have broke out among them, and to promote, on the contrary, an entire union and harmony of affection; to guard them against being seduced from the purity of the Christian faith by Judaizing teachers; to support them under the trials with which they struggled; and, above all, to inspire them with a concern to adorn their profession by the most eminent attainments in the divine life." After some particular admonitions in the beginning of the 4th chapter, he proceeds in the 8th verse to recommend virtue in the most extensive sense, mentioning all the different foundations in which it had been placed by the Grecian philosophers. Towards the close of the Epistle, he makes his acknowledgments to the Philippians for the seasonable and liberal

Scripture.

Scripture. ral supply which they had sent him, as it was so convincing a proof of their affection for him, and their concern for the support of the gospel, which he preferred far above any private secular interest of his own; expressly disclaiming all selfish, mercenary views, and assuring them with a noble simplicity, that he was able upon all occasions to accommodate his temper to his circumstances; and had learned, under the teachings of Divine grace, in whatever station Providence might see fit to place him, therewith to be content. After which, the apostle, having encouraged them to expect a rich supply of all their wants from their God and Father, to whom he devoutly ascribes the honour of all, concludes with salutations from himself and his friends at Rome to the whole church, and a solemn benediction, (verse 10. to the end); and declares, that he rejoiced in their liberality chiefly on their own account.

200
Epistle to
the Colossians.—Date
and design
of it.

The Epistle to the Colossians was written while Paul was in prison (chap. iv. 3.), and was therefore probably composed in the year 62. The intention of the apostle, as far as can be gathered from the Epistle itself, was to secure the Colossians from the influence of some doctrines that were subversive of Christianity, and to excite them to a temper and behaviour worthy of their favoured character. A new sect had arisen, which had blended the oriental philosophy with the superstitious opinions of the Jews.

201
To guard
the Colossians
against
the dangerous
doctrines of
the Jews.

They held, 1. That God was surrounded by demons or angels, who were mediators with God, and therefore to be worshipped. 2. That the soul is defiled by the body; that all bodily enjoyments hurt the soul, which they believed to be immortal, though they seem to have denied the resurrection of the body, as it would only render the soul sinful by being reunited to it. 3. That there was a great mystery in numbers, particularly in the number seven; they therefore attributed a natural holiness to the seventh or Sabbath day, which they observed more strictly than the other Jews. They spent their time mostly in contemplation; abstained from marriage, and every gratification of the senses; used washings, and thought it sinful to touch certain things; regarded wine as poison, &c.

Percy's Key
to the New
Testament.

202
The arguments
which the
apostle employs.

The arguments against these doctrines are managed with great skill and address. He begins with expressing great joy for the favourable character which he had heard of them, and assures them that he daily prayed for their farther improvement. Then he makes a short digression, in order to describe the dignity of Jesus Christ; declares that he had created all things, whether thrones or dominions, principalities and powers; that he alone was the head of the church, and had reconciled men to the Father. The inference from this description is evident, that Jesus was superior to angels; that they were created beings, and ought not to be worshipped. Thus he indirectly confutes one doctrine before he formally opposes it. Paul now returns from his digression in the 21st verse to the sentiments with which he had introduced it in the 13th and 14th verses, and again expresses his joy that the Philippian remained attached to the gospel, which was to be preached to the Gentiles, without the restraints of the ceremonial law. Here again he states a general doctrine, which was inconsistent with the opinions of those who were zealous for the law of Moses; but he leaves the Colossians to draw the inference, (chap. i.)

Having again assured them of his tender concern for their welfare, for their advancement in virtue, and that they might acknowledge the mystery of God, that is, that the gospel was to supersede the law of Moses, he proceeds directly to caution them against the philosophy of the new teachers, and their superstitious adherence to the law; shows the superiority of Christ to the angels, and warns Christians against worshipping them. He censures the observation of Sabbaths, and rebukes those who required abstinence from certain kinds of food, and cautions them against persons who assume a great appearance of wisdom and virtue, (chap. ii.)

203

In the 3d chapter he exhorts them, that, instead of being occupied about external ceremonies, they ought to cultivate pure morality. He particularly guards them against impurity, to which they had before their conversion been much addicted. He admonishes them against indulging the irascible passions, and against committing falsehood. He exhorts them to cultivate the benevolent affections, and humility, and patience. He recommends also the relative duties between husbands and wives, parents and children, masters and servants. He enjoins the duties of prayer and thanksgiving (ch. iv. 2.), and requests them to remember him in their petitions. He enjoins affability and mild behaviour to the unconverted heathens (verse 6th); and concludes the Epistle with matters which are all of a private nature, except the directions for reading this Epistle in the church of Laodicea, as well as in the church of Colosse.

204

This Epistle is addressed to the inhabitants of Thessalonica, the capital of Macedonia, a large and populous city. It appears from the Acts, chapter xvii. 1. that the Christian religion was introduced into this city by Paul and Silas, soon after they had left Philippi. At first they made many converts; but at length the Jews, ever jealous of the admission of the Gentiles to the same privileges with themselves, stirred up the rabble, which assaulted the house where the apostle and his friends lodged; so that Paul and Silas were obliged to flee to Berea, where their success was soon interrupted by the same restless and implacable enemies. The apostle then withdrew to Athens; and Timothy, at his desire, returned to Thessalonica (1 Thess. iii. 2.) to see what were the sentiments and behaviour of the inhabitants after the persecution of the Jews. From Athens Paul went to Corinth, where he stayed a year and six months; during which, Timothy returned with the joyful tidings, that the Thessalonians remained steadfast to the faith, and firmly attached to the apostle, notwithstanding his flight. Upon this he sent them this Epistle, A. D. 52, in the 12th year of Claudius.

205

This is generally reckoned the first Epistle which Paul wrote; and we find he was anxious that it should be read to all the Christians. In chap. v. 27. he uses these words; "I adjure you by the Lord, that this Epistle be read unto all the holy brethren." This direction is very properly inserted in his first Epistle.

206

The intention of Paul in writing this Epistle was evidently to encourage the Thessalonians to adhere to the Christian religion. This church being still in its infancy, and oppressed by the powerful Jews, required to be established in the faith. St Paul, therefore, in the three first chapters, endeavours to convince the Thessalonians of the truth and divinity of his gospel, both by the

And design

Scripture. the miraculous gifts of the Holy Ghost which had been imparted, and by his own conduct when among them.

While he appeals, in the first chapter, to the miraculous gifts of the Holy Spirit, he is very liberal in his commendations. He vindicates himself from the charge of timidity, probably to prevent the Thessalonians from forming an unfavourable opinion of his fortitude, which his flight might have excited. He asserts, that he was not influenced by selfish or dishonourable motives, but that he was anxious to please God and not man. He expresses a strong affection for them, and how anxious he was to impart the blessings of the gospel. He congratulates himself upon his success; mentions it to their honour that they received the gospel as the word of God and not of man, and therefore did not renounce it when persecution was raised by the Jews. He expresses a strong desire to visit the Thessalonians; and assures them he had been hitherto retained against his will.

As a farther proof of his regard, the apostle informs them, that when he came to Athens, he was so much concerned, lest, being discouraged by his sufferings, they should be tempted to cast off their profession, that he could not forbear sending Timothy to comfort and strengthen them; and expresses, in very strong terms, the sensible pleasure he felt, in the midst of all his afflictions, from the favourable account he received of their faith and love; to which he adds, that he was continually praying for their farther establishment in religion, and for an opportunity of making them another visit, in order to promote their edification, which lay so near his heart, (chap. iii. throughout.)

Having now shown his paternal affection for them, with great address he improves all that influence which his zeal and fidelity in their service must naturally have given him to inculcate upon them the precepts of the gospel. He recommends chastity, in opposition to the prevailing practice of the heathens; justice, in opposition to fraud. He praises their benevolence, and encourages them to cultivate higher degrees of it. He recommends industry and prudent behaviour to their heathen neighbours. In order to comfort them under the loss of their friends, he assures them that those who were fallen asleep in Jesus should be raised again at the last day, and should, together with those who remained alive, be caught up to meet their Lord, and share his triumph, (chap. iv.) He admonishes them to prepare for this solemn event, that it might not come upon them unawares; and then concludes the Epistle with various exhortations.

207
Second E. The second Epistle to the Thessalonians appears to have been written soon after the first, and from the same place; for Silvanus or Silas, and Timothy, are joined together with the apostle in the inscriptions of this Epistle, as well as of the former.

208
Contents of it. The apostle begins with commending the faith and charity of the Thessalonians, of which he had heard a favourable report. He expresses great joy on account of the patience with which they supported persecution; and observes that their persecution was a proof of a

righteous judgment to come, where their persecutors would meet with their proper recompense, and the righteous be delivered out of all their afflictions. He assures them of his constant prayers for their farther improvement, in order to attain the felicity that was promised, (chap. i.)

From misunderstanding a passage in his former letter, it appears that the Thessalonians believed the day of judgment was at hand. To rectify this mistake, he informs them that the day of the Lord will not come till a great apostacy has overspread the Christian world, the nature of which he describes (c). Symptoms of this mystery of iniquity had then appeared; but the apostle expresses his thankfulness to God that the Thessalonians had escaped this corruption. He exhorts them to steadfastness, and prays that God would comfort and strengthen them, (chap. ii.)

He requests the prayers of the Thessalonians for him and his two assistants, at the same time expressing his confidence that they would pay due regard to the instructions which he had given them. He then proceeds to correct some irregularities. Many of the Thessalonians seem to have led an idle disorderly life; these he severely reproves, and commands the faithful to shun their company if they still remained incorrigible.

When the first Epistle to Timothy was written, it is difficult to ascertain. Lardner dates it in 56; Mill, Whitby, and Macknight, place it in 64; but the arguments on which each party founds their opinion are too long to insert here.

Timothy was the intimate friend and companion of Paul, and is always mentioned by that apostle with much affection and esteem. Having appointed him to superintend the church of Ephesus during a journey which he made to Macedonia, he wrote this letter, in order to direct him how to discharge the important trust which was committed to him. This was the more necessary, as Timothy was young and unexperienced, (1 Tim. iv. 12.) In the beginning of the Epistle he reminds him of the charge with which he had intrusted him, to wit, to preserve the purity of the gospel against the pernicious doctrines of the Judaizing teachers, whose opinions led to frivolous controversies, and not to a good life. He shows the use of the law of Moses, of which these teachers were ignorant. This account of the law, he assures Timothy, was agreeable to the representation of it in the gospel, with the preaching of which he was intrusted. He then makes a digression, in the fulness of his heart, to express the sense which he felt of the goodness of God towards him.

In the second chapter the apostle prescribes the manner in which the worship of God was to be performed in the church of Ephesus; and in the third explains the qualifications of the persons whom he was to ordain as bishops and deacons. In the fourth chapter he foretels the great corruptions of the church which were to prevail in future times, and instructs him how to support the sacred character. In the fifth chapter he

(c) For an explanation of this prophecy, Dr Hurd's Sermons may be consulted. He applies it to the papal power, to which it corresponds with astonishing exactness.

Scripture. he teaches Timothy how to admonish the old and young of both sexes; mentions the age and character of such widows as were to be employed by the society in some peculiar office; and subjoins some things concerning the respect due to elders. In the sixth chapter he describes the duties which Timothy was to inculcate on slaves; condemns trifling controversies and pernicious disputes; censures the excessive love of money, and charges the rich to be rich in good works.

211
Second E-
pistle to
Timothy.

212
Design and
contents of
it.

That the second Epistle to Timothy was written from Rome is universally agreed; but whether it was during his first or second imprisonment has been much disputed. That Timothy was at Ephesus or in Asia Minor when this Epistle was sent to him, appears from the frequent mention in it of persons residing at Ephesus. The apostle seems to have intended to prepare Timothy for those sufferings which he foresaw he would be exposed to. He exhorts him to constancy and perseverance, and to perform with a good conscience the duties of the sacred function.

The false teachers, who had before thrown this church into confusion, grew every day worse: inasmuch that not only Hymenæus, but Philetus, another Ephesian heretic, now denied the resurrection of the dead. They were led into this error by a dispute about words. At first they only annexed various improper significations to the word *resurrection*, but at last they denied it altogether (H); pretending that the resurrection of the dead was only a resurrection from the death of sin, and so was already past. This error was probably derived from the eastern philosophy, which placed the origin of sin in the body, (chapter ii.) He then forewarns him of the fatal apostacy and declension that was beginning to appear in the church; and at the same time animates him, from his own example and the great motives of Christianity, to the most vigorous and resolute discharge of every part of the ministerial office.

213
Epistle to
Titus.

214
Design and
contents of
it.

This Epistle is addressed to Titus, whom Paul had appointed to preside over the church of Crete. It is difficult to determine either its date or the place from which it was sent. The apostle begins with reminding Titus of the reasons for which he had left him at Crete; and directs him on what principles he was to act in ordaining Christian pastors: the qualifications of whom he particularly describes. To show him how cautious he ought to be in selecting men for the sacred office, he reminds him of the arts of the Judaizing teachers, and the bad character of the Cretans, (chapter i).

He advises him to accommodate his exhortations to the respective ages, sexes, and circumstances, of those whom it was his duty to instruct; and to give the greater weight to his instructions, he admonishes him to be an example of what he taught, (chap. ii). He exhorts him also to teach obedience to the civil magistrate, because the Judaizing Christians affirmed that no obedience was due from the worshippers of the true God to magistrates who were idolaters. He cautions

against censoriousness and contention, and recommends meekness; for even the best Christians had formerly been wicked, and all the blessings which they enjoyed they derived from the goodness of God. He then enjoins Titus strenuously to inculcate good works, and to avoid useless controversies; and concludes with directing him how to proceed with those heretics who attempted to sow dissension in the church.

The Epistle to Philemon was written from Rome at the same time with the Epistles to the Colossians and Philippians, about A. D. 62 or 63. The occasion of the letter was this: Onesimus, Philemon's slave, had robbed his master and fled to Rome; where, happily for him, he met with the apostle, who was at that time a prisoner at large, and by his instructions and admonitions was converted to Christianity, and reclaimed to a sense of his duty. St Paul seems to have kept him for some considerable time under his eye, that he might be satisfied of the reality of the change; and, when he had made a sufficient trial of him, and found that his behaviour was entirely agreeable to his profession, he would not detain him any longer for his own private convenience, though in a situation that rendered such an assistant peculiarly desirable (compare ver. 13, 14.), but sent him back to his master; and, as a mark of his esteem, entrusted him, together with Tychicus, with the charge of delivering his Epistle to the church at Colosse, and giving them a particular account of the state of things at Rome, recommending him to them, at the same time, as a faithful and beloved brother, (Col. iv. 9). And as Philemon might well be supposed to be strongly prejudiced against one who had left his service in so infamous a manner, he sends him this letter, in which he employs all his influence to remove his suspicions, and reconcile him to the thoughts of taking Onesimus into his family again. And whereas St Paul might have exerted that authority which his character as an apostle, and the relation in which he stood to Philemon as a spiritual father, would naturally give him, he chooses to intreat him as a friend; and with the softest and most insinuating address urges his suit, conjuring him by all the ties of Christian friendship that he would not deny him his request: and the more effectually to prevail upon him, he represents his own peace and happiness as deeply interested in the event; and speaks of Onesimus in such terms as were best adapted to soften his prejudices, and dispose him to receive one who was so dear to himself, not merely as a servant, but as a fellow Christian and a friend.

It is impossible to read over this admirable Epistle, without being touched with the delicacy of sentiment, and the masterly address that appear in every part of it. We see here, in a most striking light, how perfectly consistent true politeness is, not only with all the warmth and sincerity of the friend, but even with the dignity of the Christian and the apostle. And if this letter were to be considered in no other view than as a mere human composition, it must be allowed a master-piece in its kind. As an illustration of this remark, it may not be improper

(H) This is by no means uncommon amongst men; to begin to dispute about the signification of words, and to be led gradually to deny the thing signified. This appears to have been the cause of most disputes, and the general beginnings of scepticism and infidelity.

Scripture. improper to compare it with an epistle of Pliny, that seems to have been written upon a similar occasion, (*lib. ix. let. 21.*); which, though penned by one that was reckoned to excel in the epistolary style, and though it has undoubtedly many beauties, yet must be acknowledged, by every impartial reader, vastly inferior to this animated composition of the apostle.

217
Epistle to the Hebrews was composed by Paul.

Macknight on the Epistles.

The Epistle to the Hebrews has been generally ascribed to Paul; but the truth of this opinion has been suspected by others, for three reasons: 1. The name of the writer is nowhere mentioned, neither in the beginning nor in any other part of the Epistle. 2. The style is said to be more elegant than Paul's. 3. There are expressions in the Epistle which have been thought unsuitable to an apostle's character. 1. In answer to the first objection, Clemens Alexandrinus has assigned a very good reason: "Writing to the Hebrews (says he), who had conceived a prejudice against him, and were suspicious of him, he wisely declined setting his name at the beginning, lest he should offend them." 2. Origen and Jerome admired the elegance of the style, and reckoned it superior to that which Paul has exhibited in his Epistles: but as ancient testimony had assigned it to Paul, they endeavoured to answer the objection, by supposing that the sentiments were the apostle's, but the language and composition the work of some other person. If the Epistle, however, be a translation, which we believe it to be, the elegance of the language may belong to the translator. As to the composition and arrangement, it cannot be denied that there are many specimens in the writings of this apostle not inferior in these qualities to the Epistle to the Hebrews. 3. It is objected, that in Heb. ii. 3. the writer of this Epistle joins himself with those who had received the gospel from Christ's apostles. Now Paul had it from Christ himself. But Paul often appeals to the testimony of the apostles in support of those truths which he had received from Revelation: We may instance 1 Cor. xv. 5, 6, 7, 8.; 2 Tim. ii. 2.

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Quoted as his by ancient writers.

This Epistle is not quoted till the end of the second century, and even then does not seem to have been universally received. This silence might be owing to the Hebrews themselves, who supposing this letter had no relation to the Gentiles, might be at no pains to diffuse copies of it. The authors, however, on whose testimony we receive it as authentic, are entitled to credit; for they lived so near the age of the apostles, that they were in no danger of being imposed on; and from the numerous list of books which they rejected as spurious, we are assured that they were very careful to guard against imposition. It is often quoted as Paul's by Clemens Alexandrinus, about the year 194. It is received and quoted as Paul's by Origen, about 230; by Dionysius bishop of Alexandria in 247; and by a numerous list of succeeding writers.

219
Written in the Syro-Chaldaic language.

The Epistle to the Hebrews was originally written in Hebrew, or rather Syro-Chaldaic; a fact which we believe on the testimony of Clemens Alexandrinus, Jerome, and Eusebius. To this it has been objected, that as these writers have not referred to any authority, we ought to consider what they say on this subject merely as an opinion. But as they state no reasons for adopting this opinion, but only mention as a fact that Paul wrote to the Hebrews in their native language, we must allow that it is their testimony which they

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produce, and not their opinion. Eusebius informs us, **Scripture.** that some supposed Luke the Evangelist, and others Clemens Romanus, to have been the translator.

According to the opinion of ancient writers, particularly Clemens Alexandrinus, Jerome, and Euthalius, this Epistle was addressed to the Jews in Palestine. — The scope of the Epistle confirms this opinion.

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Having now given sufficient evidence that this Epistle was written by Paul, the time when it was written may be easily determined: For the salutation from the saints of Italy (*chap. iv. 24.*), together with the apostle's promise to see the Hebrews (*ver. 23.*), plainly intimate, that his confinement was then either ended or on the eve of being ended. It must therefore have been written soon after the Epistles to the Colossians, Ephesians, and Philemon, and not long before Paul left Italy, that is, in the year 61 or 62.

As the zealous defenders of the Mosaic law would naturally insist on the divine authority of Moses, on the majesty and glory attending its promulgation by the ministry of angels, and the great privileges it afforded those who adhered to it; the apostle shows,

Percy's Key to the New Testament.

I. That in all these several articles Christianity had an infinite superiority to the law.

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This topic he pursues from chap. i. to xi. wherein he reminds the believing Hebrews of the extraordinary favour shown them by God, in sending them a revelation by his own son, whose glory was far superior to that of angels (*chap. i. throughout*); very naturally inferring from hence the danger of despising Christ on account of his humiliation, which, in perfect consistency with his dominion over the world to come, was voluntarily submitted to by him for wise and important reasons; particularly to deliver us from the fear of death, and to encourage the freedom of our access to God (*chap. ii. throughout*). With the same view he magnifies Christ as superior to Moses, their great legislator; and from the punishment inflicted on those who rebelled against the authority of Moses, infers the danger of contemning the promises of the gospel (*chap. iii. 2-13*). And as it was an easy transition to call to mind on this occasion that rest in Canaan to which the authority invested in Moses was intended to lead them; the apostle hence cautions them against unbelief, as what would prevent their entering into a superior state of rest to what the Jews ever enjoyed (*chap. iii. 14. iv. 11*). This caution is still farther enforced by awful views of God's omniscience, and a lively representation of the high-priesthood of Christ (*chap. iv. to the end; and Chap. v. throughout*). In the next place, he intimates the very hopeless situation of those who apostatize from Christianity (*chap. vi. 1-9*); and then, for the comfort and confirmation of sincere believers, displays to them the goodness of God, and his faithful adherence to his holy engagements; the performance of which is sealed by the entrance of Christ into heaven as our forerunner (*chap. vi. 9. to the end*). Still farther to illustrate the character of our Lord, he enters into a parallel between him and Melchizedec as to their title and descent; and, from instances wherein the priesthood of Melchizedec excelled the Levitical, infers, that the glory of the priesthood of Christ surpassed that under the law (*chap. vii. 1-17*). From these premises the apostle argues, that the Aaronical priesthood was not only excelled, but consummated by that of Christ,

Design of it to prove to the Jews the truth of the Christian religion, and its superiority to the law of Moses;

Y

to

Scripture. to which it was only introductory and subservient; and of course, that the obligation of the law was henceforth dissolved (chap. vii. 18. to the end). Then recapitulating what he had already demonstrated concerning the superior dignity of Christ's priesthood, he thence illustrates the distinguished excellence of the new covenant, as not only foretold by Jeremiah, but evidently enriched with much better promises than the old (ch. viii. throughout): Explaining farther the doctrine of the priesthood and intercession of Christ, by comparing it with what the Jewish high-priests did on the great day of atonement (chap. ix. 1—14). Afterwards he enlarges on the necessity of shedding Christ's blood, and the sufficiency of the atonement made by it (chap. ix. 15. to the end); and proves that the legal ceremonies could not by any means purify the conscience: whence he infers the insufficiency of the Mosaic law, and the necessity of looking beyond it (chap. x. 1—15.) He then urges the Hebrews to improve the privileges which such an high-priest and covenant conferred on them, to the purposes of approaching God with confidence, to a constant attendance on his worship, and most benevolent regards to each other (chap. x. 15—25).

The apostle having thus obviated the insinuations and objections of the Jews, for the satisfaction and establishment of the believing Hebrews, proceeds,

222
And to animate them to bear persecution with fortitude.

II. To prepare and fortify their minds against the storm of persecution which in part had already befallen them, which was likely to continue and be often renewed, he reminds them of those extremities they had endured, and of the fatal effects which would attend their apostacy (chap. x. 26. to the end); calling to their remembrance the eminent examples of faith and fortitude exhibited by holy men, and recorded in the Old Testament (chap. xi. 1—29). He concludes his discourse with glancing at many other illustrious worthies; and, besides those recorded in Scripture, refers to the case of several who suffered under the persecution of Antiochus Epiphanes (2 Maccab. chap. viii. &c. chap. xi. 30. xii. 2).

Having thus finished the argumentative part of the Epistle, the apostle proceeds to a general application; in which he exhorts the Hebrew Christians to patience, peace, and holiness (Chap. xii. 3—14.); cautions them against secular views and sensual gratifications, by laying before them the incomparable excellence of the blessings introduced by the gospel, which even the Jewish economy, glorious and magnificent as it was, did by no means equal; exhorts them to brotherly affection, purity, compassion, dependence on the divine care, steadfastness in the profession of truth, a life of thankfulness to God, and benevolence to man: and concludes the whole with recommending their pious ministers to their particular regard, intreating their prayers, saluting and granting them his usual benediction.

223
The seven Catholic epistles.

The seven following Epistles, one of James, two of Peter, three of John, and one of Jude, have been distinguished by the appellation of *catholic* or *general* epistles, because most of them are inscribed, not to particular churches or persons, but to the body of Jewish or Gentile converts over the world. The authenticity of some of these has been frequently questioned, viz. the Epistle of James, the second of Peter, the Epistle of Jude, and the second and third of John. The ancient

Christians were very cautious in admitting any books into their canon whose authenticity they had any reason to suspect. They rejected all the writings forged by heretics in the name of the apostles, and certainly, therefore, would not receive any without first subjecting them to a severe scrutiny. Now, though these five epistles were not immediately acknowledged as the writings of the apostles, this only shows that the persons who doubted had not received complete and incontestable evidence of their authenticity. But as they were afterwards universally received, we have every reason to conclude, that upon a strict examination they were found to be the genuine productions of the apostles. The truth is, so good an opportunity had the ancient Christians of examining this matter, so careful were they to guard against imposition, and so well founded was their judgment concerning the books of the New Testament, that, as Dr Lardner observes, no writing which they pronounced genuine has yet been proved spurious, nor have we at this day the least reason to believe any book genuine which they rejected.

224
That the Epistle of James was written in the apostolical age is proved by the quotations of ancient authors. Epistle of James the Less. Clemens Romanus and Ignatius seem to have made references to it. Origen quotes it once or twice.— There are several reasons why it was not more generally quoted by the first Christian writers. Being written to correct the errors and vices which prevailed among the Jews, the Gentiles might think it of less importance to them, and therefore take no pains to procure copies of it. As the author was sometimes denominated James the Just, and often called bishop of Jerusalem, it might be doubted whether he was one of the apostles. But its authenticity does not seem to have been suspected on account of the doctrines which it contains. In modern times, indeed, Luther called it a strawy epistle (*epistola straminea*), and excluded it from the sacred writings, on account of its apparent opposition to the apostle Paul concerning justification by faith.

This Epistle could not be written by James the Elder, the son of Zebedee, and brother of John, who was beheaded by Herod in the year 44, for it contains passages which refer to a later period. It must, therefore, have been the composition of James the Less, the son of Alphaeus, who was called *the Lord's brother*, because he was the son of Mary, the sister of our Lord's mother. As to the date of this Epistle, Lardner fixes it in the year 61 or 62. 225

James the Less stately resided at Jerusalem, whence he hath been styled by some ancient fathers bishop of that city, though without sufficient foundation. Now James being one of the apostles of the circumcision, while he confined his personal labours to the inhabitants of Judea, it was very natural for him to endeavour by his writings to extend his services to the Jewish Christians who were dispersed abroad in more distant regions. For this purpose, there are two points which the apostle seems to have principally aimed at, though he hath not pursued them in an orderly and logical method, but in the free epistolary manner, handling them jointly or distinctly as occasions naturally offered. And these were, "to correct those errors both in doctrine and practice into which the Jewish Christians had fallen, which might otherwise have produced fatal consequences; 226 And design of it.

Scripture. ces; and then to establish the faith and animate the hope of sincere believers, both under their present and their approaching sufferings."

The opinions which he is most anxious to refute are these, that God is the author of sin, (ch. i. 13.); that the belief of the doctrines of the gospel was sufficient to procure the favour of God for them, however deficient they were in good works, (ch. ii.) He dissuades the Jews from aspiring to the office of teachers in the third chapter, because their prejudices in favour of the law of Moses might induce them to pervert the doctrines of the gospel. He therefore guards them against the sins of the tongue, by representing their pernicious effects; and as they thought themselves wise and intelligent, and were ambitious of becoming teachers, he advises them to make good their pretensions, by showing themselves possessed of that wisdom which is from above, (ch. iii.)

The destruction of Jerusalem was now approaching; the Jews were split into factions, and often slaughtered one another; the apostle, therefore, in the fourth chapter, admonishes them to purify themselves from those vices which produced tumults and bloodshed. To rouse them to repentance, he foretells the miseries that were coming upon them. Lastly, he checks an irreligious spirit that seems to have prevailed, and concludes the Epistle with several exhortations.

227
First Epi-
file of
Peter.

The authenticity of the first Epistle of Peter has never been denied. It is referred to by Clemens Romanus, by Polycarp, and is quoted by Papias, Irenæus, Clemens Alexandrinus, and Tertullian. It is addressed to the strangers scattered through Pontus, &c. who are evidently Christians in general, as appears from chap. ii. 10. "In time past they were not a people, but are now the people of God." From Peter's sending the salutation of the church at Babylon to the Christians in Pontus, &c. it is generally believed that he wrote it in Babylon. There was a Babylon in Egypt and another in Assyria. It could not be the former, for it was an obscure place, which seems to have had no church for the four first centuries. We have no authority to affirm that Peter ever was in Assyria. The most probable opinion is that of Grotius, Whitby, Lardner, as well as of Eusebius, Jerome, and others, that by Babylon Peter figuratively means Rome. Lardner dates it in 63 or 64, or at the latest 65.

228
The date
229
And design
of it.

St Peter's chief design is to confirm the doctrine of St Paul, which the false teachers pretended he was opposing; and to assure the proselytes that they stood in the true grace of God, (ch. v. 12.) With this view he calls them elect; and mentions, that they had been declared such by the effusion of the Holy Ghost upon them, (ch. i. 1, 2.) He assures them that they were regenerate without circumcision, merely through the gospel and resurrection of Christ, (ver. 3, 4. 21—25.); and that their sufferings were no argument of their being under the displeasure of God, as the Jews imagined, (ver. 6—12.) He recommends it to them to hope for grace to the end, (ver. 13.) He testifies, that they were not redeemed by the Paschal lamb, but through Christ, whom God had preordained for this purpose before the foundation of the world, (ver. 18—20.)

The second Epistle of Peter is not mentioned by any ancient writer extant till the fourth century, from which

time it has been received by all Christians except the Syrians. Jerome acquaints us, that its authenticity was disputed, on account of a remarkable difference between the style of it and the former Epistle. But this remarkable difference in style is confined to the 2d chapter of the 2d Epistle. No objection, however, can be drawn from this circumstance; for the subject of that chapter is different from the rest of Peter's writings, and nothing is so well known than that different subjects suggest different styles. Peter, in describing the character of some flagitious impostors, feels an indignation which he cannot suppress: it breaks out, therefore, in the bold and animated figures of an oriental writer. Such a diversity of style is not uncommon in the best writers, especially when warmed with their subject.

Scripture.
230
Second
Epistle of
Peter. The
authentici-
ty of it
proved

This objection being removed, we contend that this Epistle was written by Peter, from the inscription, *Simon Peter, a servant and an apostle of Jesus Christ*. It appears from chap. i. 16, 17, 18, that the writer was one of the disciples who saw the transfiguration of our Saviour. Since it has never been ascribed to James or John, it must therefore have been Peter. It is evident, from chap. iii. 1. that the author had written an Epistle before to the same persons, which is another circumstance that proves Peter to be the author.

231
From in-
ternal evi-
dence.

It is acknowledged, however, that all this evidence is merely internal; for we have not been able to find any external evidence upon the subject. If, therefore, the credit which we give to any fact is to be in proportion to the degree of evidence with which it is accompanied, we shall allow more authority due to the gospels than to the epistles; more to those epistles which have been generally acknowledged than to those which have been controverted; and therefore no doctrine of Christianity ought to be founded solely upon them. It may also be added, that perhaps the best way of determining what are the essential doctrines of Christianity would be to examine what are the doctrines which occur ofteneft in the gospels; for the gospels are the plainest parts of the New Testament; and their authenticity is most completely proved. They are therefore best fitted for common readers. Nor will it be denied, we presume, that our Saviour taught all the doctrines of the Christian religion himself; that he repeated them on different occasions, and inculcated them with an earnestness proportionable to their importance. The Epistles are to be considered as a commentary on the essential doctrines of the gospel, adapted to the situation and circumstances of particular churches, and perhaps sometimes explaining doctrines of inferior importance. 1. The essential doctrines are therefore first to be sought for in the gospels, and to be determined by the number of times they occur. 2. They are to be sought for, in the next place, in the uncontroverted Epistles, in the same manner. 3. No essential doctrine ought to be founded on a single passage, nor on the authority of a controverted Epistle.

That Peter was old, and near his end, when he wrote this Epistle, may be inferred from chap. i. 14. "Knowing that shortly I must put off this tabernacle, even as our Lord Jesus has shewn me." Lardner thinks it was written soon after the former. Others, perhaps with more accuracy, date it in 67.

The general design of this Epistle is, to confirm the doctrines and instructions delivered in the former; "to it, excite the Christian converts to adorn, and stedfastly ad-
here

232
Design of

Scripture. here to their holy religion, as a religion proceeding from God, notwithstanding the artifices of false teachers, whose character is at large described; or the persecution of their bitter and inveterate enemies."

233
First Epistle of John.
Its authenticity and style.

The first Epistle of John is ascribed by the unanimous suffrage of the ancients to the beloved disciple of our Lord. It is referred to by Polycarp, is quoted by Papias, by Irenæus, and was received as genuine by Clemens Alexandrinus, by Dionysius of Alexandria, by Cyprian, by Origen, and Eusebius. There is such a resemblance between the style and sentiments of this Epistle and those of the gospel according to John, as to afford the highest degree of internal evidence that they are the composition of the same author. In the style of this apostle there is a remarkable peculiarity, and especially in this Epistle. His sentences, considered separately, are exceeding clear and intelligible; but when we search for their connection, we frequently meet with greater difficulties than we do even in the Epistles of St Paul. The principal signature and characteristic of his manner is an artless and amiable simplicity, and a singular modesty and candour, in conjunction with a wonderful sublimity of sentiment. His conceptions are apparently delivered to us in the order in which they arose to his own mind, and are not the product of artificial reasoning or laboured investigation.

It is impossible to fix with any precision the date of this Epistle, nor can we determine to what persons it was addressed.

234
Design of it.

The leading design of the apostle is to show the insufficiency of faith, and the external profession of religion, separate from morality; to guard the Christians to whom he writes against the delusive arts of the corrupters of Christianity, whom he calls Antichrist; and to inculcate universal benevolence. His admonitions concerning the necessity of good morals, and the inefficacy of external professions, are scattered over the Epistle, but are most frequent in the 1st, 2d, and 3d chapters. The enemies or corrupters of Christianity, against whom he contends, seem to have denied that Jesus was the Messiah, the Son of God (chap. ii. 22. v. 1.), and had actually come into the world in a human form, (chap. iv. 2, 3.) The earnestness and frequency with which this apostle recommends the duty of benevolence is remarkable. He makes it the distinguishing characteristic of the disciples of Jesus, the only sure pledge of our love to God, and the only assurance of eternal life, (chap. iii. 14, 15.) Benevolence was his favourite theme, which he affectionately pressed upon others, and constantly practised himself. It was conspicuous in his conduct to his great Master, and in the reciprocal affection which it inspired in his sacred breast. He continued to recommend it in his last words. When his extreme age and infirmities had so wasted his strength that he was incapable to exercise the duties of his office, the venerable old man, anxious to exert in the service of his Master the little strength which still remained, caused himself to be carried to church, and, in the midst of the congregation, he repeated these words, "Little children, love one another."

235
Second and third Epistles of John.

It has been observed by Dr Mill that the second and third Epistles of John are so short, and resemble the first so much in sentiment and style, that it is not worth while to contend about them. The second Epistle con-

sists only of 13 verses; and of these eight may be found in the 1st Epistle, in which the sense or language is precisely the same.

The second Epistle is quoted by Irenæus, and was received by Clemens Alexandrinus. Both were admitted by Athanasius, by Cyril of Jerusalem, and by Jerome. The second is addressed to a woman of distinction whose name is by some supposed to be *Cyria* (taking *κυρια* for a proper name), by others *Ecleſa*. The third is inscribed to Gaius, or Caius according to the Latin orthography, who, in the opinion of Lardner, was an eminent Christian, that lived in some city of Asia not far from Ephesus, where St John chiefly resided after his leaving Judea. The time of writing these two Epistles cannot be determined with any certainty. They are so short that an analysis of them is not necessary.

The Epistle of Jude is cited by no ancient Christian writer extant before Clemens Alexandrinus about the year 194; but this author has transcribed eight or ten verses in his Stromata and Pedagogue. It is quoted once by Tertullian about the year 200; by Origen frequently about 230. It was not however received by many of the ancient Christians, on account of a supposed quotation from a book of Enoch. But it is not certain that Jude quotes any book. He only says that *Enoch prophesied, saying, The Lord cometh with ten thousand of his saints*. These might be words of a prophecy preserved by tradition, and inserted occasionally in different writings. Nor is there any evidence that there was such a book as Enoch's prophecies in the time of Jude, though a book of that name was extant in the second and third centuries. As to the date of this Epistle nothing beyond conjecture can be produced.

The design of it is, by describing the character of the false teachers, and the punishments to which they were liable, to caution Christians against listening to their suggestions, and being thereby perverted from the faith and purity of the gospel.

The Apocalypse or Revelation has not always been unanimously received as the genuine production of the apostle John. Its authenticity is proved, however, by the testimony of many respectable authors of the first centuries. It is referred to by the martyrs of Lyons: it was admitted by Justin Martyr as the work of the apostle John. It is often quoted by Irenæus, by Theophilus bishop of Antioch, by Clement of Alexandria, by Tertullian, by Origen, and by Cyprian of Carthage. It was also received by Heretics, by Novatus and his followers, by the Donatists, and by the Arians. For the first two centuries no part of the New Testament was more universally acknowledged, or mentioned with higher respect. But a dispute having arisen about the millennium, Caius with some others, about the year 212, to end the controversy as speedily and effectually as possible, ventured to deny the authority of the book which had given occasion to it.

The book of Revelation, as we learn from Rev. i. 9. was written in the isle of Patmos. According to the general testimony of ancient authors, John was banished into Patmos in the reign of Domitian, and restored by his successor Nerva. But the book could not be published till after John's release, when he returned to Ephesus. As Domitian died in 96, and his persecution

Scripture. did not commence till near the end of his reign, the Revelation might therefore be published in 96 or 97.

Percy's Key to the New Testament. Here we should conclude; but as the curious reader may desire to be informed how the predictions revealed in this book of St John have usually been interpreted and applied, we shall consistently with our subject subjoin a key to the prophecies contained in the Revelation. This is extracted from the learned dissertations of Dr Newton, bishop of Bristol (1): to which the reader is referred for a more full illustration of the several parts, as the conciseness of our plan only admits a short analysis or abridgment of them.

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Dr Newton's explanation of the prophecies which have been already accomplished.

Nothing of a prophetic nature occurs in the first three chapters, except, 1. What is said concerning the church of Ephesus, that her "candlestick shall be removed out of its place," which is now verified, not only in this, but in all the other Asiatic churches which existed at that time; the light of the gospel having been taken from them, not only by their heresies and divisions from within, but by the arms of the Saracens from without: And, 2. Concerning the church of Smyrna, that she shall "have tribulation ten days;" that is, in prophetic language, "ten years;" referring to the persecutions of Dioclesian, which alone of all the general persecutions lasted so long.

The next five chapters relate to the opening of the *Seven Seals*; and by these seals are intimated so many different periods of the prophecy. Six of these seals are opened in the sixth and seventh chapters.

The *first seal* or period is memorable for conquests. It commences with Vespasian, and terminates in Nerva; and during this time Judea was subjugated. The *second seal* is noted for war and slaughter. It commences with Trajan, and continues through his reign, and that of his successors. In this period, the Jews were entirely routed and dispersed; and great was the slaughter and devastation occasioned by the contending parties. The *third seal* is characterised by a rigorous execution of justice, and an abundant provision of corn, wine, and oil. It commences with Septimius Severus. He and Alexander Severus were just and severe emperors, and at the same time highly celebrated for the regard they paid to the felicity of their people, by procuring them plenty of every thing, and particularly corn, wine, and oil. This period lasted during the reigns of the Septimian family. The *fourth seal* is distinguished by a concurrence of evils, such as war, famine, pestilence, and wild beasts; by all which the Roman empire was remarkably infested from the reign of Maximian to that of Dioclesian. The *fifth seal* begins at Dioclesian, and is signalized by the great persecution, from whence arose that memorable era, the Era of Martyrs. With Constantine begins the *sixth seal*, a period of revolutions, pictured forth by great commotions in earth and in heaven, alluding to the subversion of Paganism and the establishment of Christianity. This period lasted from the reign of Constantine the Great to that of Theodosius the first. The *seventh seal* includes under it the remaining parts of the prophecy, and com-

Scripture. prehends seven periods distinguished by the sounding of seven trumpets.

As the seals foretold the state of the Roman empire before and till it became Christian, so the trumpets foreshow the fate of it afterwards; each trumpet being an alarm to one nation or other, rousing them up to overthrow that empire.

Four of these trumpets are sounded in the eighth chapter.

At the founding of the first, Alaric and his Goths invade the Roman empire, besiege Rome twice, and set it on fire in several places. At the founding of the second, Attila and his Huns waste the Roman provinces, and compel the eastern emperor Theodosius the second, and the western emperor Valentinian the third, to submit to shameful terms. At the founding of the third, Genseric and his Vandals arrive from Africa; spoil and plunder Rome, and set sail again with immense wealth and innumerable captives. At the founding of the fourth, Odoacer and the Heruli put an end to the very name of the western empire; Theodoric founds the kingdom of the Ostrogoths in Italy; and at last Italy becomes a province of the eastern empire, Rome being governed by a duke under the exarch of Ravenna. As the foregoing trumpets relate chiefly to the downfall of the western empire, so do the two following to that of the eastern. They are sounded in the ninth, tenth, and part of the eleventh chapters. At the founding of the fifth trumpet, Mahomet, that blazing star, appears, opens the bottomless pit, and with his locusts the Arabians darken the sun and air. And at the founding of the sixth, a period not yet finished, the four angels, that is, the four sultanes, or leaders of the Turks and Othmans, are loosed from the river Euphrates. The Greek or Eastern empire was cruelly "hurt and tormented" under the fifth trumpet; but under the sixth, it was "slain," and utterly destroyed.

The Latin or Western Church not being reclaimed by the ruin of the Greek or Eastern, but still persisting in their idolatry and wickedness; at the beginning of the tenth chapter, and under the sound of this sixth trumpet, is introduced a vision preparative to the prophecies respecting the Western Church, wherein an angel is represented, having in his hand a little book, or codicil, describing the calamities that should overtake that church. The measuring of the temple shows, that during all this period there will be some true Christians, who will conform themselves to the rule of God's word, even whilst the outer court, that is, the external and more extensive part of this temple or church, is trodden under foot by Gentiles, *i. e.* such Christians as, in their idolatrous worship and persecuting practice, resemble and outdo the Gentiles themselves. Yet against these corrupters of religion there will always be some true witnesses to protect, who, however they may be overborne at times, and in appearance reduced to death, yet will arise again from time to time, till at last they triumph and gloriously ascend. The eleventh chapter concludes with the sounding of the seventh trumpet.

In

(1) Dissertations on the prophecies which have remarkably been fulfilled, and at this time are fulfilling, in the world, vol. iii. 8vo.

Scripture,
Scrivener.

In the twelfth chapter, by the woman bearing a man-child is to be understood the Christian church; by the great red dragon, the heathen Roman empire; by the man-child whom the woman bore, Constantine the Great; and by the war in heaven, the contests between the Christian and Heathen religions.

In the thirteenth chapter, by the beast with seven heads and ten horns, unto whom the dragon gave his power, seat, and great authority, is to be understood, not Pagan but Christian, not imperial but papal Rome; in submitting to whose religion, the world did in effect submit again to the religion of the dragon. The ten-horned beast therefore represents the Romish church and state in general: but the beast with two horns like a lamb is the Roman clergy; and that image of the ten-horned beast, which the two-horned beast caused to be made, and inspired with life, is the pope; whose number is 666, according to the numerical powers of the letters constituting the Roman name *Λατίνος*, *Latinus*, or its equivalent in *Hebrew*, רמית *Romiith*.

A	30	200	7
A	I	6	7
T	300	40	7
E	5	10	7
I	10	10	7
N	50	400	7
O	70		
Σ	200		
666		666	

Chapter xiv. By the lamb on mount Sion is meant Jesus; by the hundred forty and four thousand, his church and followers; by the angel preaching the everlasting gospel, the first principal effort made towards a reformation by that public opposition formed against the worship of saints and images by emperors and bishops in the eighth and ninth centuries; by the angel crying, "Babylon is fallen," the Waldenses and Albigenes, who pronounced the church of Rome to be the Apocalyptic Babylon, and denounced her destruction; and by the third angel, Martin Luther and his fellow reformers, who protested against all the corruptions of the church of Rome, as destructive to salvation. For an account of the doctrines and precepts contained in the Scriptures, see THEOLOGY. For proofs of their divine origin, see RELIGION, PROPHECY, and MIRACLES.

SCRIVENER, one who draws contracts, or whose business it is to place money at interest. If a scrivener is entrusted with a bond, he may receive the interest; and if he fails, the obligee shall bear the loss: and so it is if he receive the principal and deliver up the bond; for being entrusted with the security itself, it must be presumed that he is trusted with power to receive interest or principal; and the giving up the bond on payment of the money shall be a discharge thereof. But if a scrivener shall be entrusted with a mortgage-deed, he hath only authority to receive the interest, not the principal; the giving up the deed in this case not being sufficient to restore the estate, but there must be a reconveyance, &c. It is held, where a scrivener puts out his client's money on a bad security, which upon inquiry might have been easily found so, yet he cannot in equity be charged to answer for the money; for it is

here said, no one would venture to put out money of another upon a security, if he were obliged to warrant and make it good in case a loss should happen, without any fraud in him.

SCROBICULUS CORDIS, the same as ANTICARDIUM.

SCROFANELLO, in ichthyology, a name by which some have called a small fish of the Mediterranean, more usually known by the name of the *scorpana*.

SCROLL, in HERALDRY. See that article, chap. iv. sect. 9. When the motto relates to the crest, the scroll is properly placed above the achievement; otherwise it should be annexed to the escutcheon. Those of the order of knighthood are generally placed round shields.

SCROPHULA, the KING'S EVIL. See MEDICINE, n° 349.

SCROPHULARIA, FIGWORT, in botany: A genus of the angiospermia order, belonging to the didynamia class of plants; and in the natural method ranking under the 40th order, *Personatae*. The calyx is quinquefid; the corolla almost globose, and resupinated; the capsule bilocular. There are several species, of which the most remarkable are, 1. *Nodosa*, or the common figwort, which grows in woods and hedges. The root is tuberous; the stalks are four or five feet high, and branched towards the top; the leaves are heart-shaped, serrated, and acute. The flowers are of a dark red colour, shaped like a cap or helmet; the lower lip greenish: they grow in loose dichotomous spikes or *racemi* at the top of the branches. The leaves have a fetid smell and bitter taste. A decoction of them is said to cure hogs of the measles. An ointment made of the root was formerly used to cure the piles and scrophulous sores, but is at present out of practice. 2. *Aquatica*, water-figwort, or betony. The root is fibrous; stem erect, square, about four feet high. The leaves are opposite, elliptical, pointed, slightly scalloped, on decurrent footstalks. Flowers purple, in loose naked spikes. It grows on the sides of rivulets and other wet places, and has a fetid smell, though not so strong as the preceding. The leaves are used in medicine as a corrector of sena, and in powder to promote sneezing. 3. *Scorodonia*, or balm-leaved figwort. The stem is erect, square, about two feet high. The leaves are opposite, doubly serrated. The flowers are dusky purple, in composite bunches. It grows on the banks of rivulets, &c. in Cornwall. 4. *Vernalis*, or yellow figwort. The stalks are square, hairy, brown, about two feet high. The leaves are heart-shaped, roundish, hairy, indented, opposite. The flowers are yellow, on single forked footstalks from the axæ of the leaves. It grows in hedges in Surry.

SCROTUM. See ANATOMY, n° 107.

SCRUPI, in natural history, the name of a class of fossils, formed in detached masses, without any crusts; of no determinate figure or regular structure; and composed of a crystalline or sparry matter, debased by an admixture of earth in various proportions. Under this class are comprehended, 1. The *telaugia*. 2. The *petridia*. 3. The *lithozugia*. 4. The *jaspides* or jaspers.

SCRUPLE, SCRUPULUS, or *Scrupulum*, the least of the weights used by the ancients, which amongst the Romans was the 24th part of an ounce, or the 3d part of a dram. The scruple is still a weight among

us,

Scrobicu-
lus
||
Scrup'e.

Scruple, us, containing the 3d part of a dram, or 20 grains. Among goldsmiths it is 24 grains.

SCRUPLE, in Chaldean chronology, is $\frac{1}{1080}$ part of an hour, called by the Hebrews *belakin*. These scruples are much used by the Jews, Arabs, and other eastern people, in computations of time.

SCRUPLES of half Duration, an arch of the moon's orbit, which the moon's centre describes from the beginning of an eclipse to its middle.

SCRUPLES of Immersion or Incidence, an arch of the moon's orbit, which her centre describes from the beginning of the eclipse to the time when its centre falls into the shadow.

SCRUPLES of Emerfion, an arch of the moon's orbit, which her centre describes in the time from the first emerfion of the moon's limb to the end of the eclipse.

SCRUTINY, (*Scrutinium*), in the primitive church, an examination or probation practised in the last week of Lent, on the catechumens, who were to receive baptism on the Easter-day. The scrutiny was performed with a great many ceremonies. Exorcisms and prayers were made over the heads of the catechumens; and on Palm Sunday, the Lord's Prayer and Creed were given them, which they were afterwards made to rehearse. This custom was more in use in the church of Rome than anywhere else; though it appears, by some missals, to have been likewise used, though much later, in the Gallican church. It is supposed to have ceased about the year 860. Some traces of this practice still remain at Vienne, in Dauphiné, and at Liege.

SCRUTINY is also used, in the canon law, for a ticket or little paper billet, wherein at elections the electors write their votes privately, so as it may not be known for whom they vote. Among us the term *scrutiny* is chiefly used for a strict perusal and examination of the several votes hastily taken at an election; in order to find out any irregularities committed therein, by unqualified voters, &c.

SCRUTORE, or SCRUTOIR (from the French *es-Scrutore critoire*), a kind of cabinet, with a door or lid opening downwards, for conveniency of writing on, &c. Scrutore
||
Sculponeæ.

SCRY, in falconry, denotes a large flock of fowl.

SCUDDING, the movement by which a ship is carried precipitately before a tempest. As a ship flies with amazing rapidity through the water whenever this expedient is put in practice, it is never attempted in a contrary wind, unless when her condition renders her incapable of sustaining the mutual effort of the wind and waves any longer on her side, without being exposed to the most imminent danger of being overfet.

A ship either scuds with a sail extended on her foremast, or, if the storm is excessive, without any sail: which, in the sea-phrafe, is called *scudding under bare poles*. In sloops and schooners, and other small vessels, the sail employed for this purpose is called the *square-sail*. In large ships, it is either the foresail at large, reefed, or with its goose-wings extended, according to the degree of the tempest; or it is the fore-top-sail, close reefed, and lowered on the cap; which last is particularly used when the sea runs so high as to becalm the foresail occasionally, a circumstance which exposes the ship to the danger of broaching-to. The principal hazards incident to scudding are generally, a pooping sea; the difficulty of steering, which exposes the vessel perpetually to the risk of broaching-to; and the want of sufficient sea-room. A sea striking the ship violently on the stern may dash it inwards, by which she must inevitably founder. In broaching-to (that is, inclining suddenly to windward), she is threatened with being immediately overturned; and, for want of sea-room, she is endangered by shipwreck on a lee-shore, a circumstance too dreadful to require explanation.

SCULPONEÆ, among the Romans, a kind of shoes worn by slaves of both sexes. These shoes were only blocks of wood made hollow, like the French sabots.

S C U L P T U R E,

Definition
of sculp-
ture.
Origin of
it.

IS the art of carving wood or hewing stone into images. It is an art of the most remote antiquity, being practised, as there is reason to believe, before the general deluge. We are induced to assign to it this early origin, by considering the expedients by which, in the first stages of society, men have everywhere supplied the place of alphabetic characters. These, it is universally known, have been picture-writing, such as that of the Mexicans, which, in the progress of refinement and knowledge, was gradually improved into the hieroglyphics of the Egyptians and other ancient nations. See HIEROGLYPHICS.

That mankind should have lived near 1700 years, from the creation of the world to the flood of Noah, without falling upon any method to make their conceptions permanent, or to communicate them to a distance, is extremely improbable; especially when we call to mind that such methods of writing have been found, in modern times, among people much less enlightened than those must have been who were capable of building

such a vessel as the ark. But if the antediluvians were acquainted with any kind of writing, there can be little doubt of its being hieroglyphical writing. Mr Bryant has proved that the Chaldeans were possessed of that art before the Egyptians; and Berosus* informs us, that* *Apud Syncellum*, a delineation of all the monstrous forms which inhabited the chaos, when this earth was in that state, was to be seen in the temple of Belus in Babylon. This delineation, as he describes it, must have been a history in hieroglyphical characters; for it consisted of human figures with wings, with two heads, and some with the horns and legs of goats. This is exactly similar to the hieroglyphical writing of the Egyptians; and it was preserved, our author says, both in drawings and *engravings* in the temple of the god of Babylon. As Chaldee was the first peopled region of the earth after the flood, and as it appears from Pliny†, as well as from † *Hist. Nat. lib. 7.* Berosus, that the art of engraving upon bricks baked in the sun was there carried to a considerable degree of perfection at a very early period, the probability certainly

2
Not solely
from ido-
latriy.

certainly is, that the Chaldeans derived the art of hieroglyphical writing, and consequently the rudiments of the art of sculpture, from their antediluvian ancestors.

It is generally thought that sculpture had its origin from idolatry, as it was found necessary to place before the people the images of their gods to enliven the fervour of their devotion: but this is probably a mistake. The worship of the heavenly bodies, as the only gods of the heathen nations, prevailed so long before the deification of dead men was thought of (see POLYTHEISM), that we cannot suppose mankind to have been, during all that time, ignorant of the art of hieroglyphical writing. But the deification of departed heroes undoubtedly gave rise to the almost universal practice of representing the gods by images of a human form; and therefore we must conclude, that the elements of sculpture were known before that art was employed to enliven the devotion of idolatrous worshippers. The pyramids and obelisks of Egypt, which were probably temples, or rather altars, dedicated to the sun (see PYRAMID), were covered from top to bottom with hieroglyphical emblems of men, beasts, birds, fishes, and reptiles, at a period prior to that in which there is any unexceptionable evidence that mere statue-worship prevailed even in that nursery of idolatry.

3
Though it
probably
contribu-
ted to car-
ry the art
to perfec-
tion.

But though it appears thus evident that picture-writing was the first employment of the sculptor, we are far from imagining that idolatrous worship did not contribute to carry his art to that perfection which it attained in some of the nations of antiquity. Even in the dark ages of Europe, when the other fine arts were almost extinguished, the mummerly of the church of Rome, and the veneration which she taught for her saints and martyrs, preserved among the Italians some vestiges of the sister-arts of sculpture and painting; and therefore, as human nature is everywhere the same, it is reasonable to believe that a similar veneration for heroes and demigods would, among the ancient nations, have a similar effect. But if this be so, the presumption is, that the Chaldeans were the first who invented the art of hewing blocks of wood and stone into the figures of men and other animals; for the Chaldeans were unquestionably the first idolaters, and their early progress in sculpture is confirmed by the united testimonies of Berosus, Alexander Polyhistor, Apollodorus, and Pliny; not to mention the eastern tradition, that the father of Abraham was a statuary.

4
Mr Brom-
ley's theo-
ry, that
sculpture
was invent-
ed by the
Scythians.

Against this conclusion Mr Bromley, in his late History of the Fine Arts, has urged some plausible arguments. In stating these he professes not to be original, or to derive his information from the fountain-head of antiquity. He adopts, as he tells us, the theory of a French writer, who maintains, that in the year of the world 1949, about 300 years after the deluge, the Scythians under Brouma, a descendant of Magog the son of Japhet, extended their conquests over the greater part of Asia. According to this system, Brouma was not only the civilizer of India, and the author of the brahminical doctrines, but also diffused the principles of the Scythian mythology over Egypt, Phœnicia, Greece, and the continent of Asia.

Of these principles Mr Bromley has given us no distinct enumeration: the account which he gives of them is not to be found in one place, but to be collected from a variety of distant passages. In attempting therefore

to present the substance of his scattered hints in one view, we will not be confident that we have omitted none of them. The ox, says he, was the Scythian emblem of the generator of animal life, and hence it became the principal divinity of the Arabians. The serpent was the symbol of the source of intelligent nature. These were the common points of union in all the first religions of the earth. From Egypt the Israelites carried with them a religious veneration for the ox and the serpent. Their veneration for the ox appeared soon after they marched into the wilderness, when in the absence of Moses they called upon Aaron to make them gods which should go before them. The idea of having an idol to go before them, says our author, was completely Scythian; for so the Scythians acted in all their progress through Asia, with this difference, that their idol was a living animal. The Israelites having gained their favourite god, which was an ox (not a calf as it is rendered in the book of Exodus), next proceeded to hold a festival, which was to be accompanied with dancing; a species of gaiety common in the festivals which were held in adoration of the emblematic *Urotal* or ox in that very part of Arabia near Mount Sinai where this event took place. It is mentioned too as a curious and important fact, that the ox which was revered in Arabia was called *Adonai*. Accordingly Aaron announcing the feast to the ox or golden calf, speaks thus, *to-morrow is a feast to Adonai*, which is in our translation rendered *to the Lord*. In the time of Jeroboam we read of the golden calves set up as objects of worship at Bethel and Dan. Nor was the reverence paid to the ox confined to Scythia, to Egypt, and to Asia; it extended much farther. The ancient Cimbri, as the Scythians did, carried an ox of bronze before them on all their expeditions. Mr Bromley also informs us, that as great respect was paid to the living ox among the Greeks as was offered to its symbol among other nations.

The emblem of the serpent, continues Mr Bromley, was marked yet more decidedly by the express direction of the Almighty. That animal had ever been considered as emblematic of the supreme generating power of intelligent life: And was that idea, says he, discouraged, so far as it went to be a sign or symbol of life, when God said to Moses, "Make thee a brazen serpent, and set it upon a pole, and it shall come to pass that every one who is bitten, when he looketh upon it, shall live." In Egypt the serpent surrounded their Isis and Osiris, the diadems of their princes, and the bonnets of their priests. The serpent made a distinguished figure in Grecian sculpture. The fable of Echidne, the mother of the Scythians, gave her figure terminating as a serpent to all the founders of states in Greece; from which their earliest sculptors represented in that form the Titan princes, Cecrops, Draco, and even Ericthonius. Besides the spear of the image of Minerva, which Phidias made for the citadel of Athens, he placed a serpent, which was supposed to guard that goddess.

The serpent was combined with many other figures. It sometimes was coiled round an egg as an emblem of the creation; sometimes round a trident, to show its power over the sea; sometimes it encircled a flambeau, to represent life and death.

In Egypt, as well as in Scythia and India, the divinity

vinity was represented on the leaves of the tamara or lotus. Pan was worshipped as a god in that country, as well as over the east. Their sphinxes, and all their combined figures of animal creation, took their origin from the mother of the Scythians, who brought forth an offspring that was half a woman and half a serpent. Their pyramids and obelisks arose from the idea of flame; the first emblem of the supreme principle, introduced by the Scythians, and which even the influence of Zoroaster and the Magi could not remove.

We are told that the Bacchus of the Greeks is derived from the Brouma of the Indians; that both are represented as seated on a swan swimming over the waves, to indicate that each was the god of humid nature, not the god of wine, but the god of waters. The mitre of Bacchus was shaped like half an egg; an emblem taken from this circumstance, that at the creation the egg from which all things sprung was divided in the middle. Pan also was revered among the Scythians; and from that people were derived all the emblems by which the Greeks represented this divinity.

It would be tedious to follow our author through the whole of this subject; and were we to submit to the labour of collecting and arranging his scattered materials, we should still view his system with some degree of suspicion. It is drawn, as he informs us, from the work of M. D'Ancarville, intitled, *Recherches sur l'Origine, l'Esprit, et les Progres, des Arts de la Grece.*

5
ill founded.

To form conclusions concerning the origin of nations, the rise and progress of the arts and sciences, without the aid of historical evidence, by analogies which are sometimes accidental, and often fanciful, is a mode of reasoning which cannot readily be admitted. There may indeed, we acknowledge, be resemblances in the religion, language, manners, and customs, of different nations, so striking and so numerous, that to doubt of their being descended from the same stock would favour of scepticism. But historical theories must not be adopted rashly. We must be certain that the evidence is credible and satisfactory before we proceed to deduce any conclusions. We must first know whether the Scythian history itself be authentic, before we make any comparison with the history of other nations. But what is called the Scythian history, every man of learning knows to be a collection of fables. Herodotus and Justin are the two ancient writers from whom we have the fullest account of that warlike nation; but these two historians contradict each other, and both write what cannot be believed of the same people at the same period of their progress. Justin tells us, that there was a long and violent contest between the Scythians and Egyptians about the antiquity of their respective nations; and after stating the arguments on each side of the question, which, as he gives them*, are nothing to the purpose, he decides in favour of the claim of the Scythians. Herodotus was too partial to the Egyptians, not to give them the palm of antiquity; and he was probably in the right; for Justin describes his most ancient of nations, even in the time of Darius Hytaspes, as ignorant of all the arts of civil life. "They occupied their land in common (says he), and cultivated none of it. They had no houses nor settled habitations, but wandered with their cattle from desert to desert. In these rambles they carried their wives and children in tumbrils covered with the skins of beasts,

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which served as houses to protect them from the storms of winter. They were without laws, governed by the dictates of natural equity. They coveted not gold or silver like the rest of mankind, and lived upon milk and honey. Though they were exposed to extreme cold, and had abundance of flocks, they knew not how to make garments of wool, but clothed themselves in the skins of wild beasts †." This is the most favourable account which any ancient writer gives of the Scythians. By Strabo § and Herodotus || they are represented as the most savage of mortals, delighting in war and bloodshed, cutting the throats of all strangers who came among them, eating their flesh, and making cups and pots of their skulls. Is it conceivable that such savages could be sculptors; or that, even supposing their manners to have been such as Justin represents them, a people so simple and ignorant could have imposed their mythology upon the Chaldeans, Phenicians, and Egyptians, whom we know by the most incontrovertible evidence to have been great and polished nations so early as in the days of Abraham? No! We could as soon admit other novelties of more importance, with which the French of the present age pretend to enlighten the world, as this origin assigned by Mr Bromley to the art of sculpture, unless supported by better authority than that of D'Ancarville.

The inference of our author from the name of the sacred ox in Arabia, and from the dancing and gaiety which were common in the religious festivals of the Arabians, appears to us to be very hastily drawn. At the early period of the departure of the Israelites from Egypt, the language of the Hebrews, Egyptians, and Arabians, differed not more from each other than do the different dialects of the Greek tongue which are found in the poems of Homer (see PHILOLOGY, Sect. III.); and it is certain, that for many years after the formation of the golden-calf, the Hebrews were strangers to every species of idolatry but that which they had brought with them from their house of bondage. See REMPHAM.

Taking for granted therefore that the Scythians did not impose their mythology upon the eastern nations, and that the art of sculpture, as well as hieroglyphic writing and idolatrous worship, prevailed first among the Chaldeans, we shall endeavour to trace the progress of this art through some other nations of antiquity, till we bring it to Greece, where it was carried to the highest perfection to which it has yet attained.

The first intimation that we have of the art of sculpture is in the book of Genesis, where we are informed, that when Jacob, by the divine command, was returning to Canaan, his wife Rachel carried along with her the teraphim or idols of her father. These we are assured were small, since Rachel found it so easy to conceal them from her father, notwithstanding his anxious search. We are ignorant, however, how these images were made, or of what materials they were composed. The first person mentioned as an artist of eminence is Bezaleel, who formed the cherubims which covered the mercy-seat.

The Egyptians also cultivated the art of sculpture; but there were two circumstances that obstructed its progress, 1. The persons of the Egyptians were not possessed of the graces of form, of elegance, or of symmetry; and of consequence they had no perfect standard

† Lib. 2.
cap. 2.

§ Lib. 7.
|| Lib. 4.
cap. 62.

* Lib. 2.
cap. 1.

6

Egyptian
sculptures.

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to

to model their taste. They resembled the Chinese in the cast of their face, in their great bellies, and in the clumsy rounding of their contours. 2. They were restrained by their laws to the principles and practices of their ancestors, and were not permitted to introduce any innovations. Their statues were always formed in the same stiff attitude, with the arms hanging perpendicularly down the sides. What perfection were they capable of who knew no other attitude than that of chairmen? So far were they from attempting any improvements, that in the time of Adrian the art continued in the same rude state as at first; and when their slavish adulation for that emperor induced them to place the statue of his favourite Antinous among the objects of their worship, the same inanimate stiffness in the attitude of the body and position of the arms was observed. We believe it will scarcely be necessary to inform our readers that the Egyptian statue just now mentioned is very different from the celebrated statue of Antinous, of which so many moulds have been taken that imitations of it are now to be met with almost in every cabinet in Europe.

Notwithstanding the attachment of the Egyptians to ancient usages, Winkelman thinks he has discovered two different styles of sculpture which prevailed at different periods. The first of these ends with the conquest of Egypt by Cambyfes. The second begins at that time, and extends beyond the reign of Alexander the Great.

7
First style. In the first style, the lines which form the contour are straight and projecting a little; the position is stiff and unnatural: In sitting figures the legs are parallel, the feet squeezed together, and the arms fixed to the sides; but in the figures of women the left arm is folded across the breast; the bones and muscles are faintly discernible; the eyes are flat and looking obliquely, and the eyebrows sunk; features which destroy entirely the beauty of the head; the cheek-bones are high, the chin small and piked; the ears are generally placed higher than in nature, and the feet are too large and flat. In short, if we are to look for any model in the statues of Egypt, it is not for the model of beauty but of deformity. The statues of men are naked, only they have a short apron, and a few folds of drapery surrounding their waist: The vestments of women are only distinguishable by the border, which rises a little above the surface of the statue. In this age it is evident the Egyptians knew little of drapery.

8
Second style.

Of the second style of sculpture practised among the Egyptians, Winkelman thinks he has found specimens in the two figures of basalt in the Capitol, and in another figure at Villa Albani, the head of which has been renewed. The two first of these, he remarks, bear visible traces of the former style, which appear especially in the form of the mouth and shortness of the chin. The hands possess more elegance; and the feet are placed at a greater distance from one another, than was customary in more ancient times. In the first and third figures the arms hang down close to the sides. In the second they hang more freely. Winkelman suspects that these three statues have been made after the conquest of Egypt by the Greeks. They are clothed with a tunic, a robe, and a mantle. The tunic, which is puckered into many folds, descends from the neck to the ground. The robe in the first and third statues seems close to the body, and is only perceptible by

some little folds. It is tied under the breast, and covered by the mantle, the two buttons of which are placed under the epaulet.

The Antinous of the Capitol is composed of two pieces, which are joined under the haunches. But as all the Egyptian statues which now remain have been hewn out of one block, we must believe that Diodorus, in saying the stone was divided, and each half finished by a separate artizan, spoke only of a colossus. The same author informs us, that the Egyptians divided the human body into 24½ parts; but it is to be regretted that he has not given a more minute detail of that division.

The Egyptian statues were not only formed by the chisel, they were also polished with great care. Even those on the summit of an obelisk, which could only be viewed at a distance, were finished with as much labour and care as if they had admitted a close inspection. As they are generally executed in granite or basalt, stones of a very hard texture, it is impossible not to admire the indefatigable patience of the artists.

The eye was often of different materials from the rest of the statue; sometimes it was composed of a precious stone or metal. We are assured that the valuable diamond of the empress of Russia, the largest and most beautiful hitherto known, formed one of the eyes of the famous statue of Scheringham in the temple of Brahma.

Those Egyptian statues which still remain are composed of wood or baked earth: and the statues of earth are covered with green enamel.

The Phenicians possessed both a character and situation highly favourable to the cultivation of statuary. Phenician sculpture. They had beautiful models in their own persons, and their industrious character qualified them to attain perfection in every art for which they had a taste. Their situation raised a spirit of commerce, and commerce induced them to cultivate the arts. Their temples shone with statues and columns of gold, and a profusion of emeralds was everywhere scattered. All the great works of the Phenicians have been unfortunately destroyed; but many of the Carthaginian medals are still preserved, ten of which are deposited in the cabinet of the grand duke of Florence. But though the Carthaginians were a colony of Phenicians, we cannot from their works judge of the merit of their ancestors.

The Persians made no distinguished figure in the arts of design. They were indeed sensible to the charms of beauty, but they did not study to imitate them. Their dress, which consisted of long flowing robes concealing the whole person, prevented them from attending to the beauties of form. Their religion, too, which taught them to worship the divinity in the emblem of fire, and that it was impious to represent him under a human form, seemed almost to prohibit the exercise of this art, by taking away those motives which alone could give it dignity and value; and as it was not customary among them to raise statues to great men, it was impossible that statuary could flourish in Persia.

The Etrurians or ancient Tuscans, in the opinion of Winkelman, carried this art to some degree of perfection at an earlier period than the Greeks. It is said to have been introduced before the siege of Troy by Dedalus, who, in order to escape the resentment of Minos king of Crete, took refuge in Sicily, from whence he passed

passed into Italy, where he left many monuments of his art. Pausanias and Diodorus Siculus inform us, that some works ascribed to him were to be seen when they wrote, and that these possessed that character of majesty which afterwards distinguished the labours of Etruria.

A character strongly marked forms the chief distinction in those productions of Etruria which have descended to us. Their style was indeed harsh and overcharged; a fault also committed by Michael Angelo the celebrated painter of modern Etruria; for it is not to be supposed that a people of such rude manners as the Etrurians could communicate to their works that vividness and beauty which the elegance of Grecian manners inspired. On the other hand, there are many of the Tuscan statues which bear so close a resemblance to those of Greece, that antiquarians have thought it probable that they were conveyed from that country or Magna Græcia into Etruria about the time of the Roman conquest, when Italy was adorned with the spoils of Greece.

¹²
First style.

Among the monuments of Etrurian art two different styles have been observed. In the first the lines are straight, the attitude stiff, and no idea of beauty appears in the formation of the head. The contour is not well rounded, and the figure is too slender. The head is oval, the chin piked, the eyes flat, and looking askint.

These are the defects of an art in a state of infancy, which an accomplished master could never fall into, and are equally conspicuous in Gothic statues as in the productions of the ancient natives of Florence. They resemble the style of the Egyptians so much, that one is almost induced to suppose that there had once been a communication between these two nations; but others think that this style was introduced by Dedalus.

¹³
Second style.

Winkelman supposes that the second epoch of this art commenced in Etruria, about the time at which it had reached its greatest perfection in Greece, in the age of Phidias; but this conjecture is not supported by any proofs. To describe the second style of sculpture among the Etrurians, is almost the same as to describe the style of Michael Angelo and his numerous imitators. The joints are strongly marked, the muscles raised, the bones distinguishable; but the whole mien harsh. In designing the bone of the leg, and the separation of the muscles of the calf, there is an elevation and strength above life. The statues of the gods are designed with more delicacy. In forming them, the artists were anxious to show that they could exercise their power without that violent distension of the muscles which is necessary in the exertions of beings merely human; but in general their attitudes are unnatural, and the actions strained. If a statue, for instance, hold any thing with its fore-fingers, the rest are stretched out in a stiff position.

According to ancient history, the Greeks did not emerge from the savage state till a long time after the Egyptians, Chaldeans, and Indians, had arrived at a considerable degree of civilization. The original rude inhabitants of Greece were civilized by colonies which arrived among them, at different times, from Egypt and Phenicia. These brought along with them the religion, the letters, and the arts of their parent coun-

tries: and if sculpture had its origin from the worship of idols, there is reason to believe that it was one of the arts which were thus imported; for that the gods of Greece were of Egyptian and Phenician extraction is a fact incontrovertible; (see MYSTERIES, MYTHOLOGY, PHILOLOGY, sect. 7. PHILOSOPHY, n° 19, and TITAN.) The original statues of the gods, however, were very rude. The earliest objects of idolatrous worship have everywhere been the heavenly bodies; and the symbols consecrated to them were generally pillars of a conical or pyramidal figure. It was not till hero-worship was engrafted on the planetary, that the sculptor thought of giving to the sacred statue any part of the human form (see POLYTHEISM, n° 19, 23); and it appears to have been about the era of their revolution in idolatry that the art of sculpture was introduced among the Greeks. The first representations of their gods were round stones placed upon cubes or pillars; and these stones they afterwards formed roughly, so as to give them something of the appearance of a head. Agreeable to this description was a Jupiter, which Pausanias saw in Tegeum, in Arcadia. These representations were called *Hermes*; not that they represented Mercury, but from the word *herma*, which signified a rough stone. It is the name which Homer gives to the stones which were used to fix vessels to the shore. Pausanias saw at Pheres 30 deities made of unformed blocks or cubical stones. The Lacedemonians represented Castor and Pollux by two parallel posts; and a transverse beam was added, to express their mutual affection.

If the Greeks derived from foreign nations the rudiments of the arts, it must redound much to their honour, that in a few centuries they carried them to such wonderful perfection as entirely to eclipse the fame of their masters. It is by tracing the progress of sculpture among them that we are to study the history of this art; and we shall see its origin and successive improvements correspond with nature, which always operates slowly and gradually.

VIEW OF GRECIAN SCULPTURE.

THE great superiority of the Greeks in the art of sculpture may be ascribed to a variety of causes. The influence of climate over the human body is so striking, that it must have fixed the attention of every thinking man who has reflected on the subject. The violent heats of the torrid zone, and the excessive cold of the polar regions, are unfavourable to beauty. It is only in the mild climates of the temperate regions that it appears in its most attractive charms. Perhaps no country in the world enjoys a more serene air, less tainted with mists and vapours, or possesses in a higher degree that mild and genial warmth which can unfold and expand the human body into all the symmetry of muscular strength, and all the delicacies of female beauty in greater perfection, than the happy climate of Greece; and never was there any people that had a greater taste for beauty, or were more anxious to improve it. Of the four wishes of Simonides, the second was to have a handsome figure. The love of beauty was so great among the Lacedemonian women, that they kept in their chambers the statues of Nereus, of Narcissus, of

¹⁴
Causes which promoted the art of sculpture in Greece.

Hyacinthus, and of Castor and Pollux; hoping that by often contemplating them they might have beautiful children.

There was a variety of circumstances in the noble and virtuous freedom of the Grecian manners that rendered these models of beauty peculiarly subservient to the cultivation of the fine arts. There were no tyrannical laws, as among the Egyptians, to check their progress. They had the best opportunities to study them in the public places, where the youth, who needed no other veil than chastity and purity of manners, performed their various exercises quite naked. They had the strongest motives to cultivate sculpture, for a statue was the highest honour which public merit could attain. It was an honour ambitiously sought, and granted only to those who had distinguished themselves in the eyes of their fellow citizens. As the Greeks preferred natural qualities to acquired accomplishments, they decreed the first rewards to those who excelled in agility and strength of body. Statues were often raised to wrestlers. Even the most eminent men of Greece, in their youth, sought renown in gymnastic exercises. Chrysippus and Cleantes distinguished themselves in the public games before they were known as philosophers. Plato appeared as a wrestler both at the Isthmian and Pythian games; and Pythagoras carried off the prize at Elis, (see PYTHAGORAS.) The passion by which they were inspired was the ambition of having their statues erected in the most sacred place of Greece, to be seen and admired by the whole people. The number of statues erected on different occasions was immense; of course the number of artists must have been great, their emulation ardent, and their progress rapid.

As most of their statues were decreed for those who vanquished in the public games, the artists had the opportunity of seeing excellent models; for those who surpassed in running, boxing, and wrestling, must in general have been well formed, yet would exhibit different kinds of beauty.

The high estimation in which sculptors were held was very favourable to their art. Socrates declared the artists the only wise men. An artist could be a legislator, a commander of armies, and might hope to have his statue placed beside those of Miltiades and Themistocles, or those of the gods themselves. Besides, the honour and success of an artist did not depend on the caprice of pride or of ignorance. The productions of art were estimated and rewarded by the greatest sages in the general assembly of Greece, and the sculptor who had executed his work with ability and taste was confident of obtaining immortality.

It was the opinion of Winkelman, that liberty was highly favourable to this art; but, though liberty is absolutely necessary to the advancement of science, it may be doubted whether the fine arts owe their improvement to it. Sculpture flourished most in Greece, when Pericles exercised the power of a king; and in the reign of Alexander, when Greece was conquered. It attained no perfection in Rome till Augustus had enslaved the Romans. It revived in Italy under the patronage of the family of Medici, and in France under the despotic rule of Louis XIV. It is the love of beauty, luxury, wealth, or the patronage of a powerful individual, that promotes the progress of this art.

It will now be proper to give a particular account of

the ideas which the Greeks entertained concerning the standard of beauty in the different parts of the human body. And with respect to the head, the profile which they chiefly admired is peculiar to dignified beauty. It consists in a line almost straight, or marked by such slight and gentle inflections as are scarcely distinguishable from a straight line. In the figures of women and young persons, the forehead and nose form a line approaching to a perpendicular. ¹⁵ Grecian ideas of beauty. ¹⁶ The profile.

Ancient writers, as well as artists, assure us that the Greeks reckoned a small forehead a mark of beauty, and a high forehead a deformity. From the same idea, the Circassians wore their hair hanging down over their foreheads almost to their eyebrows. To give an oval form to the countenance, it is necessary that the hair should cover the forehead, and thus make a curve about the temples; otherwise the face, which terminates in an oval form in the inferior part, will be angular in the higher part, and the proportion will be destroyed. This rounding of the forehead may be seen in all handsome persons, in all the heads of ideal beauty in ancient statues, and especially in those of youth. It has been overlooked, however, by modern statuary. Bernini, who modelled a statue of Louis XIV. in his youth, turned back the hair from the forehead. ¹⁷ The forehead.

It is generally agreed that large eyes are beautiful; but their size is of less importance in sculpture than their form, and the manner in which they are enshaded. In ideal beauty, the eyes are always sunk deeper than they are in nature, and consequently the eyebrows have a greater projection. But in large statues, placed at a certain distance, the eyes, which are of the same colour with the rest of the head, would have little effect if they were not sunk. By deepening the cavity of the eye, the statuary increases the light and shade, and thus gives the head more life and expression. The same practice is used in small statues. The eye is a characteristic feature in the heads of the different deities. In the statues of Apollo, Jupiter, and Juno, the eye is large and round. In those of Pallas they are also large; but by lowering the eyelids, the virgin air and expression of modesty are delicately marked. Venus has small eyes, and the lower eyelid being raised a little, gives them a languishing look and an enchanting sweetness. It is only necessary to see the Venus de Medicis to be convinced that large eyes are not essential to beauty, especially if we compare her small eyes with those which resemble them in nature. The beauty of the eyebrows consists in the fineness of the hair, and in the sharpness of the bone which covers them; and masters of the art considered the joining of the eyebrows as a deformity, though it is sometimes to be met with in ancient statues. ¹⁸ The eyes.

The beauty of the mouth is peculiarly necessary to constitute a fine face. The lower lip must be fuller than the upper, in order to give an elegant rounding to the chin. The teeth seldom appear, except in laughing satyrs. In human figures the lips are generally close, and a little opened in the figures of the gods. The lips of Venus are half open. ¹⁹ The mouth.

In figures of ideal beauty, the Grecian artists never interrupted the rounding of the chin by introducing a dimple: for this they considered not as a mark of beauty, and only to be admitted to distinguish individuals. The dimple indeed appears in some ancient statues, but an

antiquaries suspect it to be the work of a modern hand. It is suspected also, that the dimple which is sometimes found on the cheeks of ancient statues is a modern innovation.

²⁰
The ears.

No part of the head was executed by the ancients with more care than the ears, though little attention has been given to them by modern artists. This character is so decisive, that if we observe in any statue that the ears are not highly finished, but only roughly marked, we may conclude with certainty that we are examining a modern production. The ancients were very attentive to copy the precise form of the ear in taking likenesses. Thus, where we meet with a head the ears of which have a very large interior opening, we know it to be the head of Marcus Aurelius.

²¹
The hair.

The manner in which the ancient artists formed the hair also enables us to distinguish their works from those of the moderns. On hard and coarse stones the hair was short, and appeared as if it had been combed with a wide comb; for that kind of stone was difficult to work, and could not without immense labour be formed into curled and flowing hair. But the figures executed in marble in the most flourishing period of the art have the hair curled and flowing; at least where the head was not intended to be an exact resemblance, for then the artist conformed to his model. In the heads of women, the hair was thrown back, and tied behind in a waving manner, leaving considerable intervals; which gives the agreeable variety of light and shade, and produces the effects of the *claro-obscuro*. The hair of the Amazons is disposed in this manner. Apollo and Bacchus have their hair falling down their shoulders; and young persons, till they arrived at manhood, wore their hair long. The colour of the hair which was reckoned most beautiful, was fair; and this they gave without distinction to the most beautiful of their gods, Apollo and Bacchus, and likewise to their most illustrious heroes.

²²
The hands.

Although the ravages of time have preserved but few of the hands or feet of ancient statues, it is evident from what remains how anxious the Grecian artists were to give every perfection to these parts. The hands of young persons were moderately plump, with little cavities or dimples at the joints of the fingers. The fingers tapered very gently from the root to the point, like well-proportioned columns, and the joints were scarcely perceptible. The terminating joint was not bent, as it commonly appears in modern statues.

²³
The legs and feet.

In the figures of young men the joints of the knee are faintly marked. The knee unites the leg to the thigh without making any remarkable projections or cavities. The most beautiful legs and best-turned knees, according to Winkelman, are preserved in the Apollo Sauroctones, in the Villa Borghese; in the Apollo which has a swan at its feet; and in the Bacchus of Villa Medicis. The same able connoisseur remarks, it is rare to meet with beautiful knees in young persons, or in the elegant representations of art. As the ancients did not cover the feet as we do, they gave to them the most beautiful turning, and studied the form of them with the most scrupulous attention.

The breasts of men were large and elevated. The breasts of women did not possess much amplitude. The figures of the deities have always the breasts of a virgin, the beauty of which the ancients made to consist in a gentle elevation. So anxious were the women to resemble this standard, that they used several arts to restrain the growth of their breasts. The breasts of the nymphs and goddesses were never represented swelling, because that is peculiar to those women who suckle. The paps of Venus contract and end in a point, this being considered as an essential characteristic of perfect beauty. Some of the moderns have transgressed these rules, and have fallen into great improprieties.

²⁴
The breast and lower part of the body.

The lower part of the body in the statues of men was formed like that of the living body after a profound sleep and good digestion. The navel was considerably sunk, especially in female statues.

As beauty never appears in equal perfection in every part of the same individual, perfect or ideal beauty can only be produced by selecting the most beautiful parts from different models; but this must be done with such judgment and care, that these detached beauties when united may form the most exact symmetry. Yet the ancients sometimes confined themselves to one individual, even in the most flourishing age. Theodorus, whom Socrates and his disciples visited, served as a model to the artists of his time. Phryne also appears to have been a model to the painters and sculptors. But Socrates, in his conversation with Parmenides, says, that when a perfect beauty was to be produced, the artists joined together the most striking beauties which could be collected from the finest figures. We know that Zeuxis, when he was going to paint Helen, united in one picture all the beauties of the most handsome women of Crotona.

²⁵

The Grecian sculptors, who represented with such success the most perfect beauty of the human form, were not regardless of the drapery of their statues. They clothed their figures in the most proper stuff, which they wrought into that shape which was best calculated to give effect to their design.

The drapery of statues.

The vestments of women in Greece generally consisted of linen cloth, or some other light stuff, and in latter times of silk and sometimes of woollen cloth. They had also garments embroidered with gold. In the works of sculpture, as well as in those of painting, one may distinguish the linen by its transparency and small united folds. The other light stuffs which were worn by the women (A) were generally of cotton produced in the isle of Cos; and these the art of statuary was able to distinguish from the linen vestments. The cotton cloth was sometimes striped, and sometimes embellished with a profusion of flowers. Silk was also employed; but whether it was known in Greece before the time of the Roman emperors cannot easily be determined. In paintings, it is distinguishable by changing its colour in different lights to red, violet, and sky-blue. There were two sorts of purple; that which the Greeks called the *colour of the sea*, and Tyrian purple, which resembled lac. Woollen garments are easily known by the

(A) Men sometimes wore cotton, but all who did so were reckoned effeminate.

the amplitude of their folds. Besides these, cloth of gold sometimes composed their drapery: but it was not like the modern fabric, consisting of a thread of gold or of silver spun with a thread of silk; it was composed of gold or silver alone, without any mixture.

The vestments of the Greeks, which deserve particular attention, are the tunic, the robe, and the mantle.

27
The tunic.

The tunic was that part of the dress which was next to the body. It may be seen in sleeping figures, or in those in dishabille; as in the Flora Farnese, and in the statues of the Amazons in the Capitol. The youngest of the daughters of Niobe, who throws herself at her mother's side, is clothed only with a tunic. It was of linen, or some other light stuff, without sleeves, fixed to the shoulders by a button, so as to cover the whole breast. None but the tunics of the goddesses Ceres and comedians have long straight sleeves.

28
The robe.

The robes of women commonly consisted of two long pieces of woollen cloth, without any particular form, attached to the shoulders by a great many buttons, and sometimes by a clasp. They had straight sleeves which came down to the wrists. The young girls, as well as the women, fastened their robe to their side by a cincture, in the same way as the high-priest of the Jews fastened his, as it is still done in many parts of Greece. The cincture formed on the side a knot of ribbons sometimes resembling a rose in shape, which has been particularly remarked in the two beautiful daughters of Niobe. In the younger of these the cincture is seen passing over the shoulders and the back. Venus has two cinctures, the one passing over the shoulder, and the other surrounding the waist. The latter is called *cestus* by the poets.

29
The mantle.

The mantle was called *peplon* by the Greeks, which signifies properly the mantle of Pallas. The name was afterwards applied to the mantles of the other gods, as well as to those of men. This part of the dress was not square, as some have imagined, but of a roundish form. The ancients indeed speak in general of square mantles, but they received this shape from four tassels which were affixed to them; two of these were visible, and two were concealed under the mantle. The mantle was brought under the right arm, and over the left shoulder; sometimes it was attached to the shoulder by two buttons, as may be seen in the beautiful statue of Leucothoe at Villa Albani.

30
The colour of the vestments.

The colour of vestments peculiar to certain statues is too curious to be omitted. To begin with the figures of the gods.—The drapery of Jupiter was red, that of Neptune is supposed by Winkelman to have been sea-green. The same colour also belonged to the Nereids and Nymphs. The mantle of Apollo was blue or violet. Bacchus was dressed in white. Martianus Capella assigns green to Cybele. Juno's vestments were sky-blue, but she sometimes had a white veil. Pallas was robed in a flame-coloured mantle. In a painting of Herculaneum, Venus is in flowing drapery of a golden yellow. Kings were arrayed in purple; priests in white; and conquerors sometimes in sea-green.

With respect to the head, women generally wore no covering but their hair; when they wished to cover their head, they used the corner of their mantle.— Sometimes we meet with veils of a fine transparent texture. Old women wore a kind of bonnet upon their head, an example of which may be seen in a statue in the Capitol, called the *Præfica*; but Winkelman thinks it is a statue of Hecuba.

The covering of the feet consisted of shoes or sandals. The sandals were generally an inch thick, and composed of more than one sole of cork. Those of Pallas in Villa Albani has two soles, and other statues had no less than five.

WINKELMAN has assigned four different styles to this art. The *ancient* style, which continued until the time of Phidias; the *grand* style, formed by that celebrated statuary; the *beautiful*, introduced by Praxiteles, Apelles, and Lyfippus; and the *imitative* style, practised by those artists who copied the works of the ancient masters.

The most authentic monuments of the ancient style are medals, containing an inscription, which leads us back to very distant times. The writing is from right to left in the Hebrew manner; a usage which was abandoned before the time of Herodotus. The statue of Agamemnon at Elis, which was made by Ornatas, has an inscription from right to left. This artisan flourished 50 years before Phidias; it is in the intervening period therefore between these two artists, that we are to look for the cessation of this practice. The statues formed in the ancient style were neither distinguished by beauty of shape nor by proportion, but bore a close resemblance to those of the Egyptians and Etrurians (B); the eyes were long and flat; the section of the mouth not horizontal; the chin was pointed; the curls of the hair were ranged in little rings, and resembled grains inclosed in a heap of raisins. What was still worse, it was impossible by inspecting the head to distinguish the sex.

The characters of this ancient style were these: The designing was energetic, but harsh; it was animated, but without gracefulness; and the violence of the expression deprived the whole figure of beauty.

The grand style was brought to perfection by Phidias, Polycletus, Scopas, Alcamenes, Myron, and other illustrious artists. It is probable, from some passages of ancient writers, that in this style were preserved some characters of the ancient manner, such as the straight lines, the squares and angles. The ancient masters, such as Polycletus, being the legislators of proportions, says Winkelman, and of consequence thinking they had a right to distribute the measures and dimensions of the parts of the human body, have undoubtedly sacrificed some degree of the form of beauty to a grandeur which is harsh, in comparison of the flowing contours and graceful forms of their successors.— The most considerable monuments of the grand style are the statues of Niobe and her daughters, and a figure

(B) This is a proof additional to those that will be found in the articles to which we have referred, that the Greeks received the rudiments of the art of sculpture from the nations to which they were confessedly indebted for the elements of science.

gure of Pallas, to be seen in Villa Albani; which, however, must not be confounded with the statue which is modelled according to the first style, and is also found in the same place. The head possesses all the characters of dignified beauty, at the same time exhibiting the rigidity of the ancient style. The face is defective in gracefulness; yet it is evident how easy it would have been to give the features more roundness and grace. The figures of Niobe and her daughters have not, in the opinion of Winkelman, that austerity of appearance which marks the age of the statue of Pallas. They are characterized by grandeur and simplicity: so simple are the forms, that they do not appear to be the tedious productions of art, but to have been created by an instantaneous effort of nature.

34
The graceful style.

The third style was the graceful or beautiful. Lysippus was perhaps the artist who introduced this style. Being more conversant than his predecessors with the sweet, the pure, the flowing, and the beautiful lines of nature, he avoided the square forms which the masters of the second style had too much employed. He was of opinion that the use of the art was rather to please than to astonish, and that the aim of the artist should be to raise admiration by giving delight. The artists who cultivated this style did not, however, neglect to study the sublime works of their predecessors. They knew that grace is consistent with the most dignified beauty, and that it possesses charms which must ever please: they knew also that these charms are enhanced by dignity. Grace is infused into all the movements and attitudes of their statues, and it appears in the delicate turns of the hair, and even in the adjusting of the drapery. Every sort of grace was well known to the ancients; and great as the ravages of time have been amongst the works of art, specimens are still preserved, in which can be distinguished *dignified beauty, attractive beauty, and a beauty peculiar to infants*. A specimen of dignified beauty may be seen in the statue of one of the muses in the palace of Barberini at Rome; and in the garden of the pope, on the Quirinal is a statue of another muse, which affords a fine instance of attractive beauty. Winkelman says that the most excellent model of infant beauty which antiquity has transmitted to us is a satyr of a year old, which is preserved, though a little mutilated, in Villa Albani.

35
The imitative style.

The great reputation of Praxiteles and Apelles raised an ardent emulation in their successors, who despairing to surpass such illustrious masters, were satisfied with imitating their works. But it is well known that a mere imitator is always inferior to the master whom he attempts to copy. When no original genius appears, the art must therefore decline.

36
Materials of Grecian statues.

CLAY was the first material which was employed in statuary. An instance of this may be seen in a figure of Alcamenes in bas-relief in Villa Albani. The ancients used their fingers, and especially their nails, to render certain parts more delicate and lively: hence arose the phrase *ad unguem factus homo*, "an accomplished man." It was the opinion of count Caylus that the ancients did not use models in forming their statues. But to disprove this, it is only necessary to mention an engraving on a stone in the cabinet of Stosch, which represents Prometheus engraving the figure of a man, with a plummet in his hand to measure the proportions of his

37
Clay and plaster.

model. The ancients as well as the moderns made works in plaster; but no specimens remain except some figures in bas-relief, of which the most beautiful were found at Baia.

The works made of ivory and silver were generally of a small size. Sometimes, however, statues of a prodigious size were formed of gold and ivory. The colossal Minerva of Phidias, which was composed of these materials, was 26 cubits high. It is indeed scarcely possible to believe that statues of such a size could entirely consist of gold and ivory. The quantity of ivory necessary to a colossal statue is beyond conception. M. de Pauw calculates that the statue of Jupiter Olympus, which was 54 feet high, would consume the teeth of 300 elephants.

The Greeks generally hewed their marble statues out of one block, though they after worked the heads separately, and sometimes the arms. The heads of the famous group of Niobe and her daughters have been adapted to their bodies after being separately finished. It is proved by a large figure representing a river, which is preserved in Villa Albani, that the ancients first hewed their statues roughly before they attempted to finish any part. When the statue had received its perfect figure, they next proceeded to polish it with pumice-stone, and again carefully retouched every part with the chisel.

The ancients, when they employed porphyry, usually made the head and extremities of marble. It is true, that at Venice there are four figures entirely composed of porphyry; but these are the productions of the Greeks of the middle age. They also made statues of basalt and alabaster.

WITHOUT expression, gesture, and attitude, no figure can be beautiful, because in these the graces always reside. It was for this reason that the graces are always represented as the companions of Venus.

The expression of tranquillity was frequent in Grecian statues, because, according to Plato, that was considered as the middle state of the soul between pleasure and pain. Experience too shows that in general the most beautiful persons are endowed with the sweetest and most engaging manner. Without a sedate tranquillity dignified beauty could not exist. It is in this tranquillity, therefore, that we must look for the complete display of genius.

The most elevated species of tranquillity and repose was studied in the figures of the gods. The father of the gods, and even inferior divinities, are represented without emotion or resentment. It is thus that Homer paints Jupiter shaking Olympus by the motion of his hair and his eyebrows.

Shakes his ambrosial curls, and gives the nod,
The stamp of fate and sanction of the god.

Jupiter is not always exhibited in this tranquil state. In a bas-relief belonging to the Marquis Rondini he appears seated on an arm-chair with a melancholy aspect. The Apollo of the Vatican represents the god in a fit of rage against the serpent Python, which he kills at a blow. The artist, adopting the opinion of the poets, has made the nose the seat of anger, and the lips the seat of disdain.

To express the action of a hero, the Grecian sculptors delineated

38
Ivory, silver, and gold.

39
Marble.

40
Porphyry.

41
Expression and attitude.

42
In the statues of the gods.

43
In the statues of heroes.

delineated the countenance of a noble virtuous character repressing his groans, and allowing no expression of pain to appear. In describing the actions of a hero the poet has much more liberty than the artist. The poet can paint them such as they were before men were taught to subdue their passions by the restraints of law, or the refined customs of social life. But the artist, obliged to select the most beautiful forms, is reduced to the necessity of giving such an expression of the passions as may not shock our feelings and disgust us with his production. The truth of these remarks will be acknowledged by those who have seen two of the most beautiful monuments of antiquity; one of which represents the fear of death, the other the most violent pains and sufferings. The daughters of Niobe, against whom Diana has discharged her fatal arrows, are exhibited in that state of stupefaction which we imagine must take place when the certain prospect of death deprives the soul of all sensibility. The fable presents us an image of that stupor which Eschylus describes as seizing the Niobe when they were transformed into a rock. The other monument referred to is the image of Laocoon, which exhibits the most agonizing pain that can affect the muscles, the nerves, and the veins. The sufferings of the body and the elevation of the soul are expressed in every member with equal energy, and form the most sublime contrast imaginable. Laocoon appears to suffer with such fortitude, that, whilst his lamentable situation pierces the heart, the whole figure fills us with an ambitious desire of imitating his constancy and magnanimity in the pains and sufferings that may fall to our lot.

Philoctetes is introduced by the poets shedding tears, uttering complaints, and rending the air with his groans and cries; but the artist exhibits him silent and bearing his pains with dignity. The Ajax of the celebrated painter Timomachus is not drawn in the act of destroying the sheep which he took for the Grecian chiefs, but in the moments of reflection which succeeded that frenzy. So far did the Greeks carry their love of calmness and slow movements, that they thought a quick step always announced rusticity of manners. Demosthenes reproaches Nicobulus for this very thing; and from the words he makes use of, it appears, that to speak with insolence and to walk hastily were reckoned synonymous.

44
In the statues of women.

In the figures of women, the artists have conformed to the principle observed in all the ancient tragedies, and recommended by Aristotle, never to make women show too much intrepidity or excessive cruelty. Conformable to this maxim, Clytemnestra is represented at a little distance from the fatal spot, watching the murderer, but without taking any part with him. In a painting of Timomachus representing Medea and her children, when Medea lifts up the dagger they smile in her face, and her fury is immediately melted into compassion for the innocent victims. In another representation of the same subject, Medea appears hesitating and indecisive. Guided by the same maxims, the artists of most refined taste were careful to avoid all deformity, choosing rather to recede from truth than from their accustomed respect for beauty, as may be seen in several figures of Hecuba. Sometimes, however, she appears in the decrepitude of age, her face furrowed with wrinkles, and her breasts hanging down.

Illustrious men, and those invested with offices of dignity, are represented with a noble assurance and firm aspect. The statues of the Roman emperors resemble those of heroes, and are far removed from every species of flattery, in the gesture, in the attitude, and action. They never appear with haughty looks, or with the splendor of royalty; no figure is ever seen presenting any thing to them with bended knee, except captives; and none addresses them with an inclination of the head. In modern works too little attention has been paid to the ancient *costume*. Winkelman mentions a bas-relief, which was lately executed at Rome for the fountain of Trevi, representing an architect in the act of presenting the plan of an aqueduct to Marcus Agrippa. The modern sculptor, not content with giving a long beard to that illustrious Roman, contrary to all the ancient marble statues as well as medals which remain, exhibits the architect on his knees.

In general, it was an established principle to banish all violent passions from public monuments. This will serve as a decisive mark to distinguish the true antique from supposititious works. A medal has been found exhibiting two Assyrians, a man and woman tearing their hair, with this inscription, ASSYRIA. ET. PALAESTINA. IN. POTEST. P. R. REDAC. S. C. The forgery of this medal is manifest from the word *Palaeestina*, which is not to be found in any ancient Roman medal with a Latin inscription. Besides, the violent action of tearing the hair does not suit any symbolical figure. This extravagant style, which was called by the ancients *parenthesis*, has been imitated by most of the modern artists. Their figures resemble comedians on the ancient theatres, who, in order to suit the distant spectators, put on painted masks, employed exaggerated gestures, and far overleaped the bounds of nature. This style has been reduced into a theory in a treatise on the passions composed by Le Brun. The designs which accompany that work exhibit the passions in the very highest degree, approaching even to frenzy: but these are calculated to vitiate the taste, especially of the young; for the ardour of youth prompts them rather to seize the extremity than the middle; and it will be difficult for that artist who has formed his taste from such empassioned models ever to acquire that noble simplicity and sedate grandeur which distinguished the works of ancient taste.

46
Of proportions.
PROPORTION is the basis of beauty, and there can be no beauty without it; on the contrary, proportion may exist where there is little beauty. Experience every day teaches us that knowledge is distinct from taste; and proportion, therefore, which is founded on knowledge, may be strictly observed in any figure, and yet the figure have no pretensions to beauty. The ancients considering ideal beauty as the most perfect, have frequently employed it in preference to the beauty of nature.

The body consists of three parts as well as the members. The three parts of the body are the trunk, the thighs, and the legs. The inferior part of the body are the thighs, the legs, and the feet. The arms also consist of three parts. These three parts must bear a certain proportion to the whole as well as to one another. In a well formed man the head and body must be proportioned to the thighs, the legs, and the feet, in the same manner as the thighs are proportioned to the legs and the feet, or the arms to the hands. The face also

also consists of three parts, that is, three times the length of the nose; but the head is not four times the length of the nose, as some writers have asserted. From the place where the hair begins to the crown of the head are only three-fourths of the length of the nose, or that part is to the nose as 9 to 12.

It is probable that the Grecian, as well as Egyptian artists, have determined the great and small proportions by fixed rules; that they have established a positive measure for the dimensions of length, breadth, and circumference. This supposition alone can enable us to account for the great conformity which we meet with in ancient statues. Winkelman thinks that the foot was the measure which the ancients used in all their great dimensions, and that it was by the length of it that they regulated the measure of their figures, by giving to them six times that length. This in fact is the length which Vitruvius assigns, *Pes vero altitudinis corporis sextæ*, l. 3. cap. 1. That celebrated antiquary thinks the foot is a more determinate measure than the head or the face, the parts from which modern painters and sculptors too often take their proportions. This proportion of the foot to the body, which has appeared strange and incomprehensible to the learned Huetius, and has been entirely rejected by Perrault, is however founded upon experience. After measuring with great care a vast number of figures, Winkelman found this proportion observed not only in Egyptian statues, but also in those of Greece. This fact may be determined by an inspection of those statues the feet of which are perfect. One may be fully convinced of it by examining some divine figures, in which the artists have made some parts beyond their natural dimensions. In the Apollo Belvidere, which is a little more than seven heads high, the foot is three Roman inches longer than the head. The head of the Venus de Medicis is very small, and the height of the statue is seven heads and a half: the foot is three inches and a half longer than the head, or precisely the sixth part of the length of the whole statue.

PRACTICE OF SCULPTURE.

47
Grecian
sculpture
to be stu-
died by the
modern ar-
tists.

WE have been thus minute in our account of the Grecian sculpture, because it is the opinion of the ablest critics that modern artists have been more or less eminent as they have studied with the greater or less attention the models left us by that ingenious people: Winkelman goes so far as to contend that the most finished works of the Grecian masters ought to be studied in preference even to the works of nature. This appears to be paradoxical; but the reason assigned by the Abbé for his opinion is, that the fairest lines of beauty are more easily discovered, and make a more striking and powerful impression, by their reunion in these sublime copies, than when they are scattered far and wide in the original. Allowing, therefore, the study of nature the high degree of merit it so justly claims, it must nevertheless be granted, that it leads to true beauty by a much more tedious, laborious, and difficult path, than the study of the *antique*, which presents immediately to the artist's view the object of his researches, and combines in a clear and strong point of light the various rays of beauty that are dispersed through the wide domain of nature.

As soon as the artist has laid this excellent founda-
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tion, acquired an intimate degree of familiarity with the beauties of the Grecian statues, and formed his taste after the admirable models they exhibit, he may then proceed with advantage and assurance to the imitation of nature. The ideas he has already formed of the perfection of nature, by observing her dispersed beauties combined and collected in the compositions of the ancient artists, will enable him to acquire with facility, and to employ with advantage, the detached and partial ideas of beauty which will be exhibited to his view in a survey of nature in her actual state. When he discovers these partial beauties, he will be capable of combining them with those perfect forms of beauty with which he is already acquainted. In a word, by having always present to his mind the noble models already mentioned, he will be in some measure his own oracle, and will draw rules from his own mind.

There are, however, two ways of imitating nature. ⁴⁸ Two ways
In the one a single object occupies the artist, who endeavours to represent it with precision and truth; in the other, certain lines and features are taken from a variety of objects, and combined and blended into one regular whole. All kinds of copies belong to the first kind of imitation; and productions of this kind must be executed necessarily in the Dutch manner, that is to say, with high finishing, and little or no invention. But the second kind of imitation leads directly to the investigation and discovery of true beauty, of that beauty whose idea is connate with the human mind, and is only to be found there in its highest perfection. This is the kind of imitation in which the Greeks excelled, and in which men of genius excite the young artists to excel after their example, *viz.* by studying nature as they did.

After having studied in the productions of the Grecian masters their choice and expression of select nature, their sublime and graceful contours, their noble draperies, together with that sedate grandeur and admirable simplicity that constitute their chief merit, the curious artists will do well to study the manual and mechanical part of their operations, as this is absolutely necessary to the successful imitation of their excellent manner.

It is certain that the ancients almost always formed ⁴⁹ Models of
their first models in wax: to this modern artists have substituted clay, or some such composition: they prefer clay before wax in the carnations, on account of the yielding nature of the latter, and its sticking in some measure to every thing it touches. We must not, however, imagine from hence that the method of forming models of wet clay was either unknown or neglected among the Greeks; on the contrary, it was in Greece that models of this kind were invented. Their author was Dibutades of Sicyon; and it is well known that Arcefilas, the friend of Lucullus, obtained a higher degree of reputation by his clay models than by all his other productions. Indeed, if clay could be made to preserve its original moisture, it would undoubtedly be the fittest substance for the models of the sculptor; but when it is placed either in the fire or left to dry imperceptibly in the air, its solid parts grow more compact, and the figure losing thus a part of its dimensions, is necessarily reduced to a smaller volume. This diminution would be of no consequence did it equally affect the whole figure, so as to preserve its proportions en-
tire.

A a

ture. But this is not the case: for the smaller parts of the figure dry sooner than the larger; and thus losing more of their dimensions in the same space of time than the latter do, the symmetry and proportions of the figure inevitably suffer. This inconveniency does not take place in those models that are made in wax. It is indeed extremely difficult, in the ordinary method of working the wax, to give it that degree of smoothness that is necessary to represent the softness of the carnations or fleshy parts of the body. This inconvenience may, however, be remedied, by forming the model first in clay, then moulding it in plaster, and lastly casting it in wax. And, indeed, clay is seldom used but as a mould in which to cast a figure of plaster, stucco, or wax, to serve henceforth for a model by which the measures and proportions of the statue are to be adjusted. In making waxen models, it is common to put half a pound of colophony to a pound of wax; and some add turpentine, melting the whole with oil of olives.

50
Method of
working
the mar-
ble, and

So much for the first or preparatory steps in this procedure. It remains to consider the manner of working the marble after the model so prepared; and the method here followed by the Greeks seems to have been extremely different from that which is generally observed by modern artists. In the ancient statues we find the most striking proofs of the freedom and boldness that accompanied each stroke of the chisel, and which resulted from the artist's being perfectly sure of the accuracy of his idea, and the precision and steadiness of his hand: the most minute parts of the figure carry these marks of assurance and freedom; no indication of timorousness or diffidence appear; nothing that can induce us to fancy that the artist had occasion to correct any of his strokes. It is difficult to find, even in the second-rate productions of the Grecian artists, any mark of a false stroke or a random touch. This firmness and precision of the Grecian chisel were certainly derived from a more determined and perfect set of rules than those which are observed in modern times.

The method generally observed by the modern sculptor is as follows: First, out of a great block of marble he saws another of the size required, which is performed with a smooth steel saw, without teeth, casting water and sand thereon from time to time; then he fashions it, by taking off what is superfluous with a steel point and a heavy hammer of soft iron; after this, bringing it near the measure required, he reduces it still nearer with another finer point; he then uses a flat cutting instrument, having notches in its edge; and then a chisel to take off the scratches which the former has left; till, at length, taking rasps of different degrees of fineness, by degrees he brings his work into a condition for polishing.

After this, having studied his model with all possible attention, he draws upon this model horizontal and perpendicular lines which intersect each other at right angles. He afterwards copies these lines upon his marble, as the painter makes use of such transversal lines to copy a picture, or to reduce it to a smaller size. These transversal lines or squares, drawn in an equal number upon the marble and upon the model, in a manner proportioned to their respective dimensions, exhibit accurate measures of the surfaces upon which the artist is to work; but cannot determine, with equal precision, the depths that are proportioned to these surfaces.—

The sculptor, indeed, may determine these depths by observing the relation they bear to his model; but as his eye is the only guide he has to follow in this estimate, he is always more or less exposed to error, or at least to doubt. He is never sure that the cavities made by his chisel are exact; a degree of uncertainty accompanies each stroke; nor can he be assured that it has carried away neither too much nor too little of his marble. It is equally difficult to determine, by such lines as have already been mentioned, the external and internal contours of the figure, or to transfer them from the model to the marble. By the internal contour is understood that which is described by the parts which approach towards the centre, and which are not marked in a striking manner.

It is farther to be noticed, that in a complicated and laborious work, which an artist cannot execute without assistance, he is often obliged to make use of foreign hands, that have not the talents or dexterity that are necessary to finish his plan. A single stroke of the chisel that goes too deep is a defect not to be repaired; and such a stroke may easily happen, where the depths are so imperfectly determined. Defects of this kind are inevitable, if the sculptor, in chipping his marble, begins by forming the depths that are requisite in the figure he designs to represent. Nothing is more liable to error than this manner of proceeding. The cautious artist ought, on the contrary, to form these depths gradually, by little and little, with the utmost circumspection and care; and the determining of them with precision ought to be considered as the last part of his work, and as the finishing touches of his chisel.

The various inconveniences attending this method ⁵¹ Of copy-
determined several eminent artists to look out for one ing ancient
that would be liable to less uncertainty, and productive statues.
of fewer errors. The French academy of painting at Rome hit upon a method of copying the ancient statues, which some sculptors have employed with success, even in the figures which they finished after models in clay or wax. This method is as follows. The statue that is to be copied is inclosed in a frame that fits it exactly. The upper part of this frame is divided into a certain number of equal parts, and to each of these parts a thread is fixed with a piece of lead at the end of it. These threads, which hang freely, show what parts of the statue are most removed from the centre with much more perspicuity and precision than the lines which are drawn upon its surface, and which pass equally over the higher and hollow parts of the block: they also give the artist a tolerable rule to measure the more striking variations of height and depth, and thus render him more bold and determined in the execution of his plan.

But even this method is not without its defects: for as it is impossible, by the means of a straight line, to determine with precision the procedure of a curve, the artist has, in this method, no certain rule to guide him in his contours; and as often as the line which he is to describe deviates from the direction of the plumb line, which is his main guide, he must necessarily find himself at a loss, and be obliged to have recourse to conjecture.

It is also evident, that this method affords no certain rule to determine exactly the proportion which the various parts of the figure ought to bear to each other, considered in their mutual relation and connections. The artist, indeed, endeavours to supply this defect by
inter-

intersecting the plumb-lines by horizontal ones. This recourse has, nevertheless, its inconveniences, since the squares formed by transversal lines, that are at a distance from the figure (though they be exactly equal), yet represent the parts of the figure as greater or smaller, according as they are more or less removed from our position or point of view. But, notwithstanding these inconveniences, the method now under consideration is certainly the best that has hitherto been employed: it is

more practicable and sure than any other we know, though it appears, from the remarks we have now been making, that it does not exhibit a sure and universal criterion to a sculptor who executes after a model.

To polish the statue, or make the parts of it smooth and sleek, they use pumice-stone and intelt; then tripoli; and when a still greater lustre is required, they use burnt straw. For the *Castling of Statues*, see *FOUNDERY*, and *PLASTER of Paris*.

52
Of polish-
ing the
statue.

S C U

S C Y

Scum
||
Scutage.

SCUM, properly denotes the impurities which a liquor, by boiling, casts up to the surface. The term *scum* is also used for what is more properly called the scoria of metals.

SCUPPERS, in a ship, are certain channels cut through the water-ways and sides of a ship, at proper distances, and lined with plated lead, in order to carry the water off from the deck into the sea. The scuppers of the lower deck of a ship of war are usually furnished with a leathern pipe, called the *scupper-hose*, which hangs downward from the mouth or opening of the scupper. The intent of this is to prevent the water from entering when the ship inclines under a weight of sail.

SCURVY, in medicine, see that article, n^o 351, where we have given an account of the symptoms, causes, and modes of prevention and cure, according to some of the most eminent writers in medicine. We have here only to add, that, in the opinion of Dr Beddoes, the mineral acids, especially the nitric and vitriolic, may be employed in the prevention or cure of this dreadful disease with as much success as the vegetable acids.— But of all the substances that can at once be cheaply procured and long preserved, he thinks the concrete acid of tartar by far the most promising. It is very grateful, and comes near to the citric acid. In tropical countries the scurvy is seldom known.

SCURVY-grass, in botany. See *COCHLEAREA*.

The officinalis, or common officinal scurvy-grass, grows upon rocks on the sea coast, and on the Highland mountains, abundantly. It has an acrid, bitter, and acid taste, and is highly recommended for the scurvy. There are instances of a whole ship's crew having been cured of that distemper by it; and as it abounds with acid salts, there can be no doubt but that it is a great resister of putrefaction. The best way of taking it is raw in a salad. It is also diuretic, and useful in dropsies. The Highlanders esteem it as a good stomachic.

The coronopus, another species, was some years ago rendered famous, the ashes of it being an ingredient in Mrs Joanna Stephens's celebrated medicine for the stone and gravel; but, unfortunately for those afflicted with that excruciating complaint, it has not been able to support its credit. It is acrid, and tastes like garden cress.

SCUTAGE (*scutagium*, Sax. *scildpening*), was a tax or contribution raised by those that held lands by knights service, towards furnishing the king's army, at one, two, or three merks for every knight's fee. Henry III. for his voyage to the Holy Land, had a tenth granted by the clergy, and *scutage* three merks of every

knight's fee by the *laity*. This was also levied by Henry II. Richard I. and King John. See *KNIGHT-Service*.

SCUTE (*scutum*), a French gold coin of 3s. 4d. in the reign of king Henry V. Catharine queen of England had an assurance made her of sundry castles, manors, lands, &c. valued at the sum of 40,000 *scutes*, every two whereof were worth a noble. *Rot. Parl.* 1. Hen. VI.

SCUTELLARIA, SKULL-CAP, in botany: A genus of the gymnospermia order, belonging to the didynamia class of plants; and in the natural method ranking under the 40th order, *Perforata*. The calyx is short, tubulated, has the mouth entire, and close after flowering. There are two species in Britain, the *galericulata* and *minor*. 1. The *Galericulata*, *Blue Skull-cap*, or *Hooded Willow-herb*. The stems are weak, branched, and above a foot high; the leaves are heart-shaped, narrow-pointed, on short foot-stalks, and scalloped; the flowers are blue, in pairs, on pedicles from the axæ of the leaves, and pendulous. It grows on the banks of rivers and lakes, is bitter, and has a garlic smell. 2. *Minor*, *little red Skull-cap*, or *Willow-herb*. The stalks are about eight inches high; the leaves are heart-shaped, oval; the flowers are purple. It grows in fens, and on the sides of lakes.

SCUTTLES, in a ship, square holes cut in the deck, big enough to let down the body of a man, and which serve upon some occasions to let the people down into any room below, or from one deck to another.

SCYLAX, a celebrated mathematician and geographer of Caria, flourished under the reign of Darius Hytaspes, about 558 B. C. Some have attributed to him the invention of geographical tables. We have under his name a geographical work published by Hoefchelius; but it is written by a much later author, and is perhaps only an abridgment of Scylax's Ancient Geography.

SCYLLA (anc. geog.), a rock in the Fretum Siculum, near the coast of Italy, dangerous to shipping, opposite to Charybdis, a whirlpool on the coast of Sicily; both of them famous in mythology.

Scylla and Charybdis have been almost subdued by the repeated convulsions of this part of the earth, and by the violence of the current, which is continually increasing the breadth of the Straits. If proper allowance be made for these circumstances, we shall acquit the ancients of any exaggeration, notwithstanding the very dreadful colours in which they have painted this passage. It is formed by a low peninsula, called *Cape Pelorus*, stretching to the eastward on the Sicilian side,

Sutherland's
Tour up the
Straits,
Letter xii.

Scylla
||
Scythia.

immediately within which lies the famous whirlpool of Charybdis, and by the rocks of Scylla, which a few miles below on the Calabrian shore project towards the west. The current runs with surprising force from one to the other alternately in the direction of the tide, and the tides themselves are very irregular. Thus vessels, by shunning the one, were in the utmost danger of being swallowed up by the other.

At present, in moderate weather, when the tide is either at ebb or flood, boats pass all over the whirlpool: but, in general, it is like the meeting of two contending currents, with a number of eddies all around; and, even now, there is scarcely a winter in which there are not some wrecks.

"At the time when we passed the Straits (says Captain Sutherland, from whom we have obtained this accurate information) the weather was as favourable as we could wish; and yet, in spite of a strong breeze and the current, which hurried us on with surprising velocity, the ship's head was suddenly whirled round near three points; but the wind blowing fresh, in a few seconds she dashed through the eddy that had caught her; for, to avoid Scylla, and secure Messina, we had kept pretty close to Charybdis."

SCYROS, an island in the Ægean sea, at the distance of about 28 miles north-east from Eubœa. It is 60 miles in circumference. It was originally in the possession of the Pelasgians and Carians. Achilles retired there to avoid going to the Trojan war, and became father of Neoptolemus by Deidamia the daughter of king Lycomedes. Scyros was conquered by the Athenians under Cimon. It was very rocky and barren. Now *Sciro*. E. Long. 25. 0. N. Lat. 38. 15.

SCYTALA LACONICA, in antiquity, a stratagem or device of the Lacedæmonians, for the secret writing of letters to their correspondents, so that if they should chance to be intercepted, nobody might be able to read them.—To this end they had two wooden rollers or cylinders, perfectly alike and equal; one whereof was kept in the city, the other by the person to whom the letter was directed. For the letter, a skin of very thin parchment was wrapped round the roller, and thereon was the matter written; which done, it was taken off, and sent away to the party, who, upon putting it in the same manner upon his roller, found the lines and words in the very same disposition as when they were first written. This expedient they set a very high value on; though, in truth, artless and gross enough: the moderns have improved vastly on this method of writing. See CIPHER.

SCYTALIA, in botany: A genus of the monogynia order, belonging to the octandria class of plants; and in the natural method ranking with those that are doubtful. The calyx is very short, monophyllous, and somewhat quinque-dentated; the corolla pentapetalous; the filaments hairy at the base; the berry unilocular, with one seed of a soft pulpy consistence. There is only one species, viz. the *Sinenfis*, a native of the East Indies.

SCYTHIA, an ancient name for the northern parts of Asia, now known by the name of *Tartary*; also for some of the north-eastern parts of Europe.

This vast territory, which extends itself from the Ister or Danube, the boundary of the Celts, that is, from

about the 25th to almost the 110th degree of east longitude, was divided into Scythia in Europe and Scythia in Asia, including, however, the two Sarmatias; or, as they are called by the Greeks, *Sauromatias*, now the Circassian Tartary, which lay between and severed the two Scythias from each other. Sauromatia was also distinguished into European and Asiatic; and was divided from the European Scythia by the river Don or Tanais, which falls into the Palus Meotis; and from the Asiatic by the Rha, now Volga, which empties itself into the Caspian sea.

1. The Asiatic Scythia comprehended, in general, great Tartary, and Russia in Asia; and, in particular, the Scythia beyond or without Imaus, contained the regions of Bogdoi or Ostiacoï, and Tanguti. That within, or on this side Imaus, had Turkestan and Mongal, the Usbeck or Zagataï, Kalmuc and Nagaian Tartars; besides Siberia, the land of the Samoiedes, and Nova Zembla. These three last not being so soon inhabited as the former, as may be reasonably supposed, were wholly unknown to the ancients; and the former were peopled by the Bactrians, Sogdians, Gandari, Sacks, and Massagetes. As for Sarmatia, it contained Albania, Iberia, and Colchis; which makes now the Circassian Tartary, and the province of Georgia.

2. Scythia in Europe reached (towards the south-west) to the Po and the Alps, by which it was divided from Celto-Gallia. It was bounded on the south by the Ister or Danube and the Euxine sea. Its northern limits have been supposed to stretch to the spring-heads of the Boristhenes or Nieper, and the Rha or Volga, and so to that of the Tanais.—The ancients divided this country into Scythia Arimaspea, which lay eastward, joining to Scythia in Asia; and Sarmatia Europeana on the west. In Scythia, properly so called, were the Arimaspei on the north; the Getæ or Dacians along the Danube, on the south; and the Neuri between these two. So that it contained the European Russia or Muscovy, and the Lesser Crim Tartary eastward; and, on the west, Lithuania, Poland, part of Hungary, Transylvania, Walachia, Bulgaria, and Moldavia. Sarmatia is supposed to have reached northward to that part of Swedeland called *Feningia*, now *Finland*; in which they placed the Oænes, Panoti, and Hippopodes. This part they divided from northern Germany, now the west part of Sweden and Norway, by the *Mare Sarmaticum* or *Scythicum*, which they supposed ran up into the northern ocean, and, dividing Lapland into two parts, formed the western part of Sweden, with Norway, into one island, and Finland into another; supposing this also to be cut off from the continent by the gulph of that name.

Although the ancient Scythians were celebrated as a warlike people, yet their history is too uncertain and obscure to enable us to give any detail which would not prove equally tiresome and uninteresting to the reader. Mr Pinkerton, in a dissertation on their origin, endeavours to prove that they were the most ancient of nations; and he assigns for the place of their first habitation the country known by the name of Persia. From Persia, he thinks, they proceeded in numerous hordes westward, surrounded the Euxine, peopled Germany, Italy, Gaul, the countries bordering on the Baltic, with part of Britain and Ireland. That the Scythians were of Asiatic

Seythian
||
Sea.

atic origin cannot, we think, be questioned; and as Persia was peopled at a very early period, it may not improbably have been their parent country: but when our author contends that their empire had subsisted for more than 1500 years before Ninus the founder of the Assyrian monarchy, and that it extended from Egypt to the Ganges, and from the Persian gulf and Indian sea to the Caspian, we cannot help thinking that his prejudices against the Celts, and his desire to do honour to his favourite Goths, have made him advance a paradox inconsistent with the most authentic records of antiquity. His dissertation however is ingenious, and replete with a variety of curious learning.

Scythian Lamb, in natural history. See *Scythian Lamb*.

SCYTHROPS, a generical name given by Mr Latham to a bird of which hitherto but one species has been observed. It is about the size of a crow, and two feet three inches in length. The bill is large, convex, furrowed on the sides, and bent at the tip; the nostrils are placed at the base of it, and the tongue is cloven at the end. The general colour of the plumage is a brownish ash, but the tip of each feather of the back, wings, and tail, is black. The tail has each feather banded with black at the end, and the tip itself white; but the inner webs of the feather are marked with black and white bands. The toes are placed two forwards and two backwards, as in the parrot genus. This curious bird is a native of New Holland, and we believe in that part of the world is not uncommon, but its manners are as yet quite unknown. We are happy in being able to present our readers with an engraving of it from an excellent drawing with which we were lately favoured. See plate CCCCXLIX.

SEA, in a strict sense, signifies a large portion of water almost surrounded by land, as the Baltic and Mediterranean seas; but it is frequently used for that vast body of water which encompasses the whole earth.

1
What proportion the surface of the sea bears to that of the land.

What proportion the superficies of the sea bears to that of the land cannot easily be ascertained. Buffon has supposed that the surface of our globe is equally divided between land and water, and has accordingly calculated the superficies of the sea to be 85,490,500 square miles. But it is now well known that the ocean covers much more than the half of the earth's surface. Buffon believed the existence of a vast southern continent, which Captain Cook has shown to be visionary. It was this circumstance which misled him. According to the most accurate observations hitherto made, the surface of the sea is to the land as three to one; the ocean therefore extends over 128,235,759 square miles, supposing the superficies of the whole globe to be 170,981,012 square miles. To ascertain the depth of the sea is still more difficult than its superficies, both on account of the numerous experiments which it would be necessary to make, and the want of proper instruments for that purpose. Beyond a certain depth the sea has hitherto been found unfathomable; and though several methods have been contrived to obviate this difficulty, none of them has completely answered the purpose. We know in general that the depth of the sea increases gradually as we leave the shore; but if this continued beyond a certain distance, the depth in the middle of the ocean would be prodigious. Indeed the numerous islands everywhere scattered in the sea demonstrate the con-

2
Depth of the sea.

trary, by showing us that the bottom of the water is unequal like the land, and that so far from uniformly sinking, it sometimes rises into lofty mountains. If the depth of the sea be in proportion to the elevation of the land, as has generally been supposed, its greatest depth will not exceed five or six miles, for there is no mountain six miles perpendicular above the level of the sea. The sea has never been actually sounded to a greater depth than a mile and 66 feet; every thing beyond that therefore rests entirely upon conjecture and analogical reasoning, which ought never to be admitted to determine a single point that can be ascertained by experiment, because, when admitted, they have too often led to false conclusions. Along the coasts, where the depth of the sea is in general well known, it has always been found proportioned to the height of the shore: when the coast is high and mountainous, the sea that washes it is deep; when, on the contrary, the coast is low, the water is shallow. Whether this analogy holds at a distance from the shore, experiments alone can determine.

To calculate the quantity of water contained in the sea, while its depth is unknown, is impossible. But if we suppose with Buffon that its medium depth is the fourth part of a mile, the ocean, if its superficies be 128,235,759 square miles, will contain 32,058,939.75 cubic miles of water.

3
Quantity of water which it contains.

Let us now endeavour to compute the quantity of water which is constantly discharged into the sea. For this purpose let us take a river whose velocity and quantity of water is known, the Po, for instance, which according to Riccioli is 1000 feet (or 100 perches of Boulogne) broad, 10 feet deep, and runs at the rate of four miles in an hour; consequently that river discharges into the sea 200,000 cubic perches of water in an hour, or 4,800,000 in a day. A cubic mile contains 125,000,000 cubic perches; the Po therefore will take 26 days to discharge a cubic mile of water into the sea. Let us now suppose, what is perhaps not very far from the truth, that the quantity of water which the sea receives from the rivers in any country is proportioned to the extent of that country. The Po from its origin to its mouth traverses a country 380 miles long, and the rivers which fall into it on every side rise from sources about sixty miles distant from it. The Po, therefore, and the rivers which it receives, water a country of 45,600 square miles. Now since the whole superficies of the dry land is about 42,745,253 square miles, it follows, from our supposition, that the quantity of water discharged by all the rivers in the world, in one day, is 36 cubic miles, and in a year 13,140. If therefore the sea contains 32,058,939 cubic miles of water, it would take all the rivers in the world 2439 years to discharge an equal quantity.

Buffon's Theory of the Earth, art. 10.

It may seem surprising that the sea, since it is continually receiving such an immense supply of water, does not visibly increase, and at last cover the whole earth. But our surprise will cease, if we consider that the rivers themselves are supplied from the sea, and that they do nothing more than carry back those waters which the ocean is continually lavishing upon the earth. Dr Halley has demonstrated that the vapours raised from the sea and transported upon land are sufficient to maintain all the rivers in the world. The simplicity of this great process is astonishing: the sea not only connects distant

4
Why it does not increase.

Sea.

distant countries, and renders it easy to transport the commodities of one nation to another, but its waters rising in the air descend in showers to fertilise the earth and nourish the vegetable kingdom, and collecting into rivers flow onwards, bringing fertility and wealth and commerce along with them, and again return to the sea to repeat the same round.

5
Theories
of philoso-
phers on
this sub-
ject.

The knowledge of this process of nature might, one would think, have convinced philosophers that the proportion between sea and land continued always nearly the same. Philosophers however have formed different theories about this as well as most other subjects, maintaining on the one hand that the sea is continually encroaching on the land, and on the other that the land is constantly gaining on the sea. Both sides have supported their theories by arguments, demonstrations, and uncontrovertible facts!

6
Arguments
of those
who affirm
that the sea
is encroach-
ing on the
land.

The height of the mountains, say the philosophers who support the encroachments of the sea, is continually diminishing; exposed to the violence of every storm, the hardest rocks must at last give way and tumble down. The rivers are continually sweeping along with them particles of earth which they deposit in the bottom of the sea. Both the depth of the ocean then and the height of the dry land must be always decreasing; the waters therefore must, unless a part of them were annihilated, spread over a greater extent of surface in proportion as these causes operate. This reasoning, convincing as it is, might be confirmed by a great number of facts: it will be sufficient however to mention one or two. In the reign of Augustus the isle of Wight made a part of Britain, so that the English crossed over to it at low water with cart loads of tin; yet that island is at present separated from Britain by a channel half a mile wide. The Godwin sands on the eastern shore of England were formerly the fertile estate of earl Godwin. Nor are the encroachments of the sea confined to Britain. In the bay of Baiæ near Naples there are remains of houses and streets still visible below the present level of the sea. The sea therefore is making continued encroachments upon the land; and the time will come, say they, when the waters will again cover the surface of the earth.

7
Arguments
of those
who affirm
that the
land is
gaining on
the sea.

Such are the arguments of those philosophers who maintain the continual encroachments of the sea. Those who maintain the opposite theory, that the land is gradually gaining on the sea, though they pretend not to deny the facts advanced by their opponents, affirm that they are altogether insufficient to establish the hypothesis which they were brought forward to support. Though the rivers carry down particles of earth into the sea, these, say they, are either accumulated on other shores, or, collecting in the bottom of the ocean, harden into stone, which being possessed of a vegetative power rises by degrees above the surface of the sea and forms rocks, and mountains, and islands. The vegetative nature of stone indeed is sufficient, of itself, to convince us that the quantity of earth must be daily accumulating, and consequently that the surface of the sea is diminishing in extent. Celsus, a Swedish philosopher (for this dispute has been carried on in Sweden with the greatest keenness), has endeavoured to build this

Sea.

theory with more solid materials than vegetable stone. In a curious memoir, published in 1743, he asserts that the Baltic and the Atlantic, at least that part of it which washes Norway, is constantly diminishing; and he proves this by the testimony of a great many aged pilots and fishermen, who affirmed that the sea was become much shallower in many places than it had been during their youth: that many rocks formerly covered with water were now several feet above the surface of the sea: that loaded vessels used formerly to ride in many places where pinnaces and barks could now with difficulty swim. He produces instances of ancient sea-port towns now several leagues from the shore, and of anchors and wrecks of vessels found far within the country. He mentions a particular rock which 168 years before was at the bottom of the sea, but was then raised eight feet above its surface. In another place where the water 50 years before had reached to the knee there was then none. Several rocks, too, which during the infancy of some old pilots had been two feet under water, were then three feet above it. From all these observations M. Celsus concludes, that the water of the Baltic decreases in height $4\frac{1}{2}$ lines in a year, 4 inches 5 lines in 18 years, 4 feet 5 inches in a hundred years, and in a thousand years 45 feet. Conscious, however, that these facts, how conclusive soever as far as relates to the Baltic, can never determine the general question, M. Celsus advances another argument in support of his theory. All that quantity of moisture, says he, which is imbibed by plants is lost to the general mass of water, being converted into earth by the putrefaction of vegetables. This notion had been mentioned by Newton, and was adopted by Van Helmont: if granted, it follows as a consequence that the earth is continually increasing and the water diminishing in a very rapid degree.

8

Such are the arguments advanced in support of both theories; for it is needless to mention a notion of Linnaeus that the whole earth was formerly covered with water except a single mountain. When fairly weighed, they amount to nothing more than this, that the sea has encroached upon the land in some places, and retired in others; a conclusion which we are very willing to allow. What was advanced by those philosophers, who maintain that the sea is continually encroaching on the land, about the depth of the sea constantly diminishing, must remain a mere assertion till they prove by experiments, either that this is really the case, or that nature has no way of restoring those particles of earth which are washed down by the rivers. Nor have they any good reason to affirm that the height of the mountains is decreasing. Can a single uncontrovertible instance be produced of this? Are the Alps or the Apennines, or Taurus, or Caucasus, less lofty now than they were a thousand years ago? We mean not to deny that the rain actually washes down particles of earth from the mountains, nor to affirm that the hardest rocks are able to resist continual storms, nor that many mountains have suffered, and continue to suffer daily, from a thousand accidents. But the effects produced by all these causes are so trifling as to be altogether imperceptible (A). Nature has assiduously guarded against such accidents; she has formed the mountains of the most durable

These arguments
examined.

(A) M. Genessee pretends that the Pyrenean mountains become an inch lower every ten years. But even according

Sea. ble materials; and where they are covered with earth, she has bound it together by a thick and firm matting of grass, and thus secured it from the rains; and should accident deprive it of this covering, she takes care immediately to supply the defect. Even should the earth be swept away together with its covering, nature has still such resources left as frequently restore things to their former state. Many kinds of moss, one would be tempted to think, have been created for this very purpose: they take root and flourish almost upon the bare rock, and furnish as they decay a sufficient bed for several of the hardy Alpine plants. These perish in their turn, and others succeed them. The roots of the plants bind fast the earth as it accumulates, more plants spring up and spread wider, till by degrees the whole surface is covered with a firm coat of grass. Even the rain, which always contains in it a good deal of earth, contributes something to hasten the process.

As the vegetation of stone, an argument advanced by the philosophers who support the opposite theory, is now, we believe, given up by all parties, it is needless to take any farther notice of it here, (see STONE). The hypothesis of M. Celsius, that water is converted into earth, has also shared the same fate, because it was unsupported by experiment, and contrary to every thing that we know either about earth or water. It is a little extraordinary that philosophers have been so lavish of water as to convert it in this manner into stone and earth, when they had given it, one would think, sufficient employment before in making new worlds and in confuting Moses.

9
Bottom of
the sea.

As the sea covers so great a portion of the globe, we should, no doubt, by exploring its bottom, discover a vast number of interesting particulars. Unfortunately in the greater part of the ocean this has hitherto been impossible. Part, however, has been examined; and the discoveries which this examination has produced may enable us to form some idea at least of the whole. The bottom of the sea, as might have been conjectured indeed beforehand, bears a great resemblance to the surface of the dry land, being, like it, full of plains, rocks, caverns, and mountains; some of which are abrupt and almost perpendicular, while others rise with a gentle declivity, and sometimes tower above the water and form islands. Neither do the materials differ which compose the bottom of the sea and the basis of the dry land. If we dig to a considerable depth in any part of the earth, we uniformly meet with rock; the same thing holds in the sea. The strata, too, are of the same kind, disposed in the same manner, and form indeed but one whole. The same kind of mineral and bituminous substances are also found interspersed with these strata; and it is to them probably that the sea is indebted for its bitter taste. Over these natural and original strata an artificial bed has pretty generally been formed, composed of different materials in different places. It consists frequently of muddy tartareous substances firmly cemented

together, sometimes of shells or coral reduced to powder, and near the mouths of rivers it is generally composed of fine sand or gravel. The bottom of the sea resembles the land likewise in another particular: many fresh springs and even rivers rise out of it, which, displacing the salt water, render the lower part of the sea wherever they abound quite fresh. An instance of this kind occurs near Goa on the western coast of Indostan*, and another § in the Mediterranean sea not far from Marseilles. These facts occasioned a notion, which later experiments have exploded, that the sea beyond a certain depth was always fresh.

Substances of a very beautiful appearance are frequently brought up by the sounding line from the bottom of the sea. The plummet is hollowed below, and this cavity filled with tallow, to which some of the substances adhere which form the bed of the ocean. These are generally sand, gravel, or mud; but they are sometimes of the brightest scarlet, vermilion, purple, and yellow; and sometimes, though less frequently, they are blue, green, or white. These colours are owing to a kind of jelly which envelopes the substances, and vanish entirely as soon as this jelly dries. At times, however, they assume the appearance of tartareous crusts, and are then so permanent, that they can be received into white wax melted and poured round them, and perhaps by proper care might be converted into valuable paints.

Sea-water is really, as any one may convince himself by pouring it into a glass, as clear and transparent as river water. The various appearances therefore which it assumes are owing to accidental causes, and not to any change in the water itself. The depth, or the materials which compose the bottom of the sea, occasions it to assume different colours in different places. The Arabian gulph, for instance, is said to be red from the colour of the sands which form its bed. The appearance of the sea is affected too by the winds and the sun, while the clouds that pass over it communicate all their various and fleeting colours. When the sun shines it is green; when the sun gleams through a fog it is yellow; near the north pole it appears black; while in the torrid zone its colour is often brown. Sometimes the sea assumes a luminous appearance. See LIGHT, n° 37.

The sea contains the greatest quantity of salt in the torrid zone, where otherwise from the excessive heat it would be in danger of putrefaction: as we advance northward this quantity diminishes, till at the pole it nearly vanishes altogether. Under the line Lucas found that the sea contained a seventh part of solid contents, consisting chiefly of sea-salt. At Harwich he found it yielded $\frac{1}{3}$ th of sea-salt. At Carlscroon in Sweden it contains $\frac{1}{6}$ th part (B), and on the coast of Greenland a great deal less. This deficiency of salt near the poles probably contributes a good deal towards the prodigious quantities of ice which are met with in these seas; for

Sea.

* Boyle de
Fundo Ma-
ris.
§ Marfigli
Histoire
Physique de
la Mer,
partie 1.

10

Colour of
the sea.

11

Saltiness of
the sea.

According to his own calculation, it would require a million of years to level these mountains with the plain, though they continued to decrease at the same rate; and philosophers tell us that this rate is constantly diminishing!

(B) This gradual diminution of saltiness from the equator to the pole is not, however, without particular exceptions. The Mediterranean sea contains $\frac{1}{3}$ th of sea-salt, which is less than the German sea contains.

Sea.

for salt water requires a much greater degree of cold to freeze it than fresh water. It was this circumstance, probably, together with its constant motion, which induced the ancients to believe that the sea never froze. Even among the moderns it has been a generally received opinion, that sea-ice is originally formed in rivers. Buffon has made the great quantities of ice with which the South sea abounds an argument for the existence of a continent near the Antarctic pole. But it is now well known that great quantities of ice are formed at a distance from land. Sea-ice is of two kinds; field ice, which extends along the shore, and is only two or three feet thick; and mountain ice, which abounds in the middle of the ocean. The size of these mountains is sometimes prodigious. The sea-ice is always fresh, and has been often of great use to navigators. The weight of sea-water is to that of river-water as 73 to 70; that is, a cubic foot of sea-water weighs 73 lb. while the same quantity of river-water weighs only 70 lb.; but this proportion varies in different places. It is worthy of our attention, too, that the water at the surface of the sea contains less salt than near the bottom; the difference indeed is inconsiderable, but still it is something. The Comte de Marfigli found the same quantity of water, when taken from the bottom of the Mediterranean, to weigh one ounce three pennyweights 51 grains; whereas from the surface it weighed only one ounce three pennyweights 49 grains. He repeated the experiment frequently with nearly the same result.

12
Tempera-
ture of the
sea.

Boyle de
Temperie
Regionum
Submarina-
rum.

Phil. Trans.
for 1751,
p. 213.

13
The sea
has three
motions.
Motion
occasioned
by the
wind

The sea, with respect to temperature, may be divided into two regions: The first begins at the surface of the water, and descends as far as the influence of the sun's rays; the second reaches from thence to the bottom of the sea. In summer the lower region is considerably colder than the upper: but it is probable that during winter the very reverse takes place; at least the Comte de Marfigli found it so repeatedly in the Mediterranean. This naturally results from the situation of the water near the bottom of the sea. Uninfluenced by the changes in the atmosphere, it retains always nearly the same degree of temperature: and this is considerably above congelation; for the lower region of the sea, at least in the temperate parts of the world, was never known to freeze. Captain Ellis let down a sea-gage (see GAGE) in latitude $25^{\circ} 13'$ north, and longitude $25^{\circ} 12'$ west, to take the degrees of temperature and saltness of the sea at different depths. It descended 5346 feet, which is a mile and eleven fathoms. He found the sea saltier and colder in proportion to its depth till the gage had descended 3900 feet, when the mercury in the thermometer came up at 53; but the water never grew colder, though he let down the gage 2446 feet lower. At the surface the thermometer stood at 84.

The sea has three kinds of motion: 1. The first is that undulation which is occasioned by the wind. This motion is entirely confined to the surface; the bottom even during the most violent storms remains perfectly calm. Mr Boyle has remarked, from the testimony of several divers, that the sea is affected by the winds only to the depth of six feet. It would follow from this, that the height of the waves above the surface does not exceed six feet; and that this holds in the Mediterranean at least, we are informed by the Comte de Marfigli, though he also sometimes observed them, during a very violent tempest, rise two feet higher. It is af-

firmed by Pliny, and several other ancient writers, that oil calms the waves of the sea; and that divers were accustomed to carry some of it for that purpose in their mouths. This account was always considered by the moderns as a fable, and treated with such contempt, that they did not even deign to put it to the test of experiment, till Dr Franklin accidentally discovered its truth. Happening in 1757 to be in the middle of a large fleet, he observed that the water round one or two vessels was quite calm and smooth, while everywhere else it was very much agitated by the winds. He applied to the captain for an explanation of this phenomenon, who replied, that the cooks, he supposed, had thrown their greasy water out at the scupper-holes, and by that means oiled the sides of the vessels in question. This answer did not satisfy the Doctor at first; but recollecting what Pliny had said on the subject, he resolved at least to try the experiment. He did so accordingly in 1762, and found that oil actually calmed the waves of the sea. He repeated the experiment upon lake Clapham: the oil spread itself with great rapidity upon the surface, but did not produce the desired effect, because, having been thrown in upon the side opposite to the wind, it was immediately driven to the edge of the water. But upon throwing in a like quantity upon the other side of the lake, it calmed in an instant several yards of the surface; and gradually spreading, rendered all that part of the lake, to the extent of at least half an acre, as smooth as glass. The curious effect produced by this liquid may be accounted for by the repulsion which exists between oil and water, and between oil and air, which prevents all immediate contact, all rubbing of the one upon the other.

2. The second kind of motion is that continual tendency which the whole water in the sea has towards the west. It is greater near the equator than about the poles; and indeed cannot be said to take place at all in the northern hemisphere beyond the tropic. It begins on the west side of America, where it is moderate: hence that part of the ocean has been called *Pacific*. As the waters advance westward their motion is accelerated; so that, after having traversed the globe, they strike with great violence on the eastern shore of America. Being stopped by that continent, they turn northward, and run with considerable impetuosity into the gulph of Mexico; from thence they proceed along the coast of North America, till they come to the south side of the great bank at Newfoundland, when they turn off, and run down through the Western Isles. This current is called the *Gulph Stream*. It was first accurately described by Dr Franklin, who remarked also, that the water in it having been originally heated in the torrid zone, cools so gradually in its passage northward, that even the latitude might be found in any part of the stream by means of a thermometer.— This motion of the sea westward has never been explained: it seems to have some connection with the trade-winds and the diurnal revolution of the earth on its axis.

3. The third and most remarkable motion of the sea is the tide, which is a regular swell of the ocean once every 12 hours, owing, as Newton has demonstrated, to the attraction of the moon. In the middle of the sea the tide seldom rises higher than one or two feet, but on the coast it frequently reaches the height of 45 feet,

Sea.

14
Stilled by
oil.

15
Motion to-
wards the
west—Cur-
rents.

16
Motion oc-
casioned by
the tide.

feet, and in some places even more. The tide generally rises higher in the evening than in the morning: on the coast of Britain this holds in winter, but in summer the morning tides are highest. In some seas it is said that there are no tides. This cannot be owing to their being surrounded by land, because there is a tide in the lakes of North America. For an explanation of these and other phenomena we refer to the article *TIDE*.

SEA-Air, that part of the atmosphere which is above the sea.

Sea-air has been found salubrious and remarkably beneficial in some distempers. This may be owing to its containing a greater portion of oxygenous gas or vital air, and being less impregnated with noxious vapours than the land. Dr Ingenhousz made several experiments to ascertain the salubrity of sea-air. By mixing equal measures of common air and nitrous air, he found, that at Gravesend, they occupied about 104, or one measure, and $\frac{4}{55}$ of a measure: whereas on sea, about three miles from the mouth of the Thames, two measures of air (one of common and one of nitrous air) occupied from 0.91 to 0.94. He attempted a similar experiment on the middle of the channel between the English coast and Ostend; but the motion of the ship rendered it impracticable. He found that in rainy and windy weather the sea-air contained a smaller quantity of vital air than when the weather was calm. On the sea-shore at Ostend it occupied from 94 $\frac{1}{2}$ to 97; at Bruges he found it at 105; and at Antwerp 109 $\frac{1}{2}$. Dr Ingenhousz thus concludes his paper:

Phil. Trans. It appears, from these experiments, that the air at sea and close to it is in general purer and fitter for animal life than the air on the land, though it seems to be subject to the same inconstancy in its degree of purity with that of the land; so that we may now with more confidence send our patients, labouring under consumptive disorders, to the sea, or at least to places situated close to the sea, which have no marshes in their neighbourhood. It seems also probable, that the air will be found in general much purer far from the land than near the shore, the former being never subject to be mixed with land air.

Dr Damman, an eminent physician and professor royal of midwifery at Ghent, told Dr Ingenhousz, that when he was formerly a practitioner at Ostend, during seven years, he found the people there remarkably healthy; that nothing was rarer there than to see a patient labouring under a consumption or asthma, a malignant, putrid, or spotted fever; that the disease to which they are the most subject, is a regular intermittent fever in autumn, when sudden transitions from hot to cold weather happen.

People are in general very healthy at Gibraltar, though there are very few trees near that place; which Dr Ingenhousz thinks is owing to the purity of the air, arising from the neighbourhood of the sea.

Most small islands are very healthy.

At Malta people are little subject to diseases, and live to a very advanced age.

SEA-Anemony. See *ANIMAL-Flower*.

SEA-Bear. } See *PHOCA*.

SEA-Calf. }

SEA-Cow. See *TRICHECUS*.

SEA-Crow, MIRE-Crow, or Pewit. See *LARUS*.

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SEA-Dead. See *ASPHALTITES*.

SEA-Devil. See *LOPHIUS*.

SEA-Dragon, a monster of a very singular nature. In the Gentleman's Magazine for the year 1749, we have the account of a sea-dragon which was said to be taken between Orford and Southwold, on the coast of Suffolk, and afterwards carried round the country as a curiosity by the fisherman who caught it.

"Its head and tail (says the writer) resemble those of an alligator; it has two large fins, which serve it both to swim and to fly; and though they were so dried that I could not extend them, yet they appear, by the folds, to be shaped like those which painters have given to dragons and other winged monsters that serve as supporters to coats of arms. Its body is covered with impenetrable scales; its legs have two joints, and its feet are hoofed like those of an ass: it has five rows of very white and sharp teeth in each jaw, and is in length about four feet, though it was longer when alive, it having shrunk as it became dry.

"It was caught in a net with mackerel; and being dragged on shore, was knocked down with a stretcher or boat-hook. The net being opened, it suddenly sprung up, and flew above 50 yards: the man who first seized it had several of his fingers bitten off; and the wound mortifying, he died. It afterwards fastened on the man's arm who shows it, and lacerated it so much, that the muscles are shrunk, and the hand and fingers distorted; the wound is not yet healed, and is thought to be incurable. It is said by some to have been described by naturalists under the name of the *Sea-dragon*." See Plate CCCCXLIX.

SEA-Gage. See *SEA-GAGE*.

SEA-Hare. See *LAPLYSIA*.

SEA-Horse, in ichthyology, the English name of the *Hippocampus*. See *SYNGNATHUS*.

SEA-Lemon. See *DORIS*.

SEA-Lion. See *PHOCA*.

SEA-Mall, or SEA-Mew. See *LARUS*.

SEA-Man. See *MERMAID*.

SEA-Marks. The erection of beacons, light-houses, and sea-marks, is a branch of the royal prerogative. By 8 Eliz. 13. the corporation of the Trinity-house are empowered to set up any beacons or sea-marks wherever they shall think them necessary; and if the owner of the land or any other person shall destroy them, or take down any steeple, tree, or other known sea-mark, he shall forfeit 100 l. Sterling; or, in case of inability to pay it, he shall be *ipso facto* outlawed.

SEA-Needle, Gar-fish. See *ESOX*.

SEA-Nettle. See *ANIMAL-Flower*.

SEA-Pie, or Oyster-Catcher. See *HÆMATOPUS*.

SEA-Plants, are those vegetables that grow in salt-water within the shores of the sea. The old botanists divided these into three classes. 1. The first class, according to their arrangement, contained the *Alga*, the *fu-ci*, the *sea-mosses* or *conservas*, and the different species of sponges. 2. The second contained substances of a hard texture, like stone or horn, which seem to have been of the same nature with what we call *zoophyta*, with this difference, that we refer sponges to this class and not to the first. The third class was the same with our *lithophyta*, comprehending *corals*, *mandrepora*, &c. It is now well known that the genera belonging to the

B^b

second

Sea.

second and third of these classes, and even some referred to the first, are not vegetables, but animals, or the productions of animals. See CORALLINA, MADREPORA, SPONGIA. Sea-plants, then, properly speaking, belong to the class of cryptogamia, and the order of algæ; and, according to Bomare, are all comprehended under the genus of fucus. We may also add several species of the ulva and conferva and the sargazo. The fuci and marine ulvæ are immersed in the sea, are sessile, and without root. The marine confervæ are either sessile or floating. The sargazo grows beyond soundings.

As some species of the fucus, when dried and preserved, are extremely beautiful, the curious, and especially those who prosecute the study of botany, must be anxious to know the best method of preserving them, without destroying their colour and beauty. The following method is recommended by M. Mauduyt. Take a sheet of paper, or rather of pasteboard, and cover it with varnish on both sides; and having rowed in a boat to the rock where the fucus abounds, plunge your varnished paper into the water, and, detaching the fucus, receive it upon the paper. Agitate the paper gently in the water, that the plant may be properly spread over it; and lift them up together softly out of the water: then fix down with pins the strong stalks, that they may not be displaced, and leave the plant lying upon the varnished paper to dry in the open air. When it is fully dry, the different parts will retain their position, and the plant may be preserved within the leaves of a book. If you wish to free it from the slime and salt which adheres to it, it may be washed gently in fresh water, after being removed from the rock on which it grew.

SEA-Serpent, a monstrous creature, said to inhabit the northern seas about Greenland and the coasts of Norway. The following marvellous account of this monster is given by Guthrie. "In 1756, one of them was shot by a master of a ship: its head resembled that of a horse; the mouth was large and black, as were the eyes, a white mane hanging from its neck: it floated on the surface of the water, and held its head at least two feet out of the sea: between the head and neck were seven or eight folds, which were very thick; and the length of this snake was more than 100 yards, some say fathoms. They have a remarkable aversion to the smell of castor; for which reason, ship, boat, and bark masters provide themselves with quantities of that drug, to prevent being overset, the serpent's olfactory nerves being remarkably exquisite. The particularities related of this animal would be incredible, were they not attested upon oath. Egede, a very reputable author, says, that on the 6th day of July 1734, a large and frightful sea-monster raised itself so high out of the water, that its head reached above the main-top-mast of the ship; that it

had a long sharp snout, broad paws, and spouted water like a whale; that the body seemed to be covered with scales; the skin was uneven and wrinkled, and the lower part was formed like a snake. The body of this monster is said to be as thick as a hoghead; his skin is variegated like a tortoise shell; and his excrement, which floats upon the surface of the water, is corrosive." Notwithstanding the belief of Guthrie, and the testimony which he produces, we cannot help doubting of the existence of the sea-serpent. Its bulk is said to be so disproportionate to all the known animals of our globe, that it requires more than ordinary evidence to render it credible; but the evidence which is offered is so very feeble and unsatisfactory, that no man of sound judgement would think it sufficient to establish the truth of an extraordinary fact.

SEA-Sickness, a disorder incident to most persons on their first going to sea, occasioned by the agitation of the vessel. In voyages, sea-sickness, though it continues in general only for the first day or two, is extremely harassing to some people at intervals, especially on any increased motion of the vessel. Sometimes, by long continuance, it causes fever, headach, quick pulse, thirst, white tongue, and a total deprivation of the retention of the stomach; evils which are always difficult to remove, and frequently terminate only with the voyage.

This indisposition is considerably alleviated by a small tea spoonful of ether, taken now and then in a glass of water, and applying some of it to the temples and nostrils. The ancient writers recommend acid fruits, bread and vegetables soaked in vinegar, after the stomach has been cleansed by vomiting; but not to attempt to suppress the vomiting until that end was obtained. An old remedy for sea-sickness, and a very common one among sailors, is a draught or two of sea water; which, though a disgusting medicine at such a time, yet where the first passages are foul and loaded, generally produces the desired effect when the perturbation it occasions ceases.

SEA-Star. See ASTERIAS.

SEA-Urchine. See ECHINUS.

SEA-Water, the salt water of the sea. The principal salts contained in sea-water are, 1st, Common marine or culinary salt, compounded of fossil alkali or soda and marine acid; 2dly, A salt formed by the union of the same acid with magnesian earth; and, lastly, A small quantity of selenite. The quantity of saline matter contained in a pint of sea-water, in the British seas, is, according to Neumann, about one ounce in each pint (A).

The saltiness of this water is judged to arise from great multitudes both of mines and mountains of salt dispersed here and there in the depths of the sea. Dr Halley supposes that it is probable the greatest part of the sea-salt, and of all salt lakes, as the Caspian Sea, the Dead-Sea, the Lake of Mexico, and the Titicaca in

(A) In Sir Torbern Bergman's analysis of sea-water taken up in the beginning of June 1776, about the latitude of the Canaries, from the depth of 60 fathoms, the solid contents of a pint of the water were,

	Grs.			Grs.
Of common salt	253 ⁶ / ₁₁	} or 5	3. 3. 1	10 ² / ₁₁
Salited magnesia	69 ¹ / ₁₁			
Gypsum	8 ² / ₁₁			
Total	330 ⁹ / ₁₁			

Sea. in Peru, is derived from the water of the rivers which they receive: and since this sort of lakes has no exit or discharge but by the exhalation of vapours, and also since these vapours are entirely fresh or devoid of such particles, it is certain that the saltness of the sea and of such lakes must from time to time increase; and therefore the saltness at this time must be greater than at any time heretofore. He further adds, that if, by experiments made in different ages, we could find the different quantity of salt which the same quantity of water (taken up in the same place, and in all other the same circumstances) would afford, it would be easy from thence, by rules of proportion, to find the age of the world very nearly, or the time wherein it has been acquiring its present saltness.

This opinion of Dr Halley is so improbable, that it is surprising so acute a philosopher could have adopted it. That fresh water rivers should in the course of many thousand years produce saltness in the sea, is quite incredible. If this were the case, every sea or great body of water which receives rivers must be salt, and must possess a degree of saltness in proportion to the quantity of water which the rivers discharge. But so far is this from being true, that the Palus Meotis and the great lakes in America do not contain salt but fresh water. It may indeed be objected, that the quantity of salt which the rivers carry along with them and deposit in the sea, must depend on the nature of the soil through which they flow, which may in some places contain no salt at all: and this may be the reason why the great lakes in America and the Palus Meotis are fresh. But to this opinion, which is merely hypothetical, there are insurmountable objections. It is a curious fact that the saltness of the sea is greatest under the line, and diminishes gradually as we advance to the poles: We must therefore suppose, if Dr Halley's theory be true, that the earth contains more salt in the tropical regions than in the temperate zones, and more in the temperate zones than in the frigid; and consequently that the rivers in these different regions contain a quantity of salt proportionable to their distance from the equator. This, however, must first be proved by experiment, and cannot be assumed as an established fact. But there is another circumstance that entirely destroys this theory. If we allow that the sea receives its saltness from the rivers, it must be equally salt or nearly so in every part of the earth. For, according to a simple and well known principle in chemistry, *when any substance is dissolved in water with the assistance of agitation, at whatever part of the water it is introduced, it will be equally diffused through the whole liquid.* Now though it were true that a greater quantity of salt were introduced into the sea under the line than towards the poles, from the constant agitation occasioned by the wind and tide, the salt must soon pervade the whole mass of water. To say that the superior degree of heat in the tropical regions may dissolve a greater quantity of salt, will not destroy our argument; for it is an established principle in chemistry, that cold water will dissolve nearly as great a quantity of salt as hot water can dissolve.

The saltness of the sea has also been ascribed to the solution of subterraneous mines of salt which is supposed to abound in the bottom of the sea and along its shores. But this hypothesis cannot be supported.

Sea. If the sea were constantly dissolving salt, it would soon become saturated; for it cannot be said that it is deprived of any part of its salt by evaporation, since rain-water is fresh. If the sea were to become saturated, neither fishes nor vegetables could live in it. We must therefore despair of being able to account for the saltness of the sea by second causes; and must suppose that it has been salt from the creation. It is impossible indeed to suppose that the waters of the sea were at any period fresh since the formation of fishes and sea-plants: for as these will not live in water saturated with salt, neither will they live in water that is fresh; we therefore conclude that the saltness of the sea has been nearly the same in all ages. This is the simplest hypothesis of the three that has been mentioned. It explains best the various phenomena, and is involved in fewest difficulties. We shall, however, allow that there may be some exceptions; that the saltness of some seas, or of particular parts of the same sea, may be increased by mines of rock-salt dispersed near its shores.

With regard to the use of this salt property of sea-water, it is observed, that the saltness of the sea preserves its waters pure and sweet, which otherwise would corrupt and stink like a filthy lake, and consequently that none of the myriads of creatures which now live therein could then have a being. From thence also the sea-water becomes much heavier, and therefore ships of greater size and quantity may be used thereon. Salt-water also doth not freeze so soon as fresh-water, whence the seas are more free for navigation. We have a dissertation, by Dr Ruffel, concerning the medical uses of sea-water in diseases of the glands, &c. wherein the author premises some observations upon the nature of sea-water, considered as impregnated with particles of all the bodies it passes over, such as submarine plants, fish, salts, minerals, &c. and saturated with their several effluvia, to enrich it and keep it from putrefaction: whence this fluid is supposed to contract a soapiness; and the whole collection, being pervaded by the sulphureous steams passing through it, to constitute what we call *sea-water*; the confessed distinguishing characteristics of which are saltness, bitterness, nitrosity, and unctuousity: whence the author concludes, that it may be justly expected to contribute signally to the improvement of physic. The cases in which our author informs us we are to expect advantage from sea-water are, 1. In all recent obstructions of the glands of the intestines and mesentery. 2. All recent obstructions of the pulmonary glands, and those of the viscera, which frequently produce consumptions. 3. All recent glandular swellings of the neck, or other parts. 4. Recent tumors of the joints, if they are not suppurated, or become scirrhous or cancerous, and have not carious bones for their cause. 5. Recent defluxions upon the glands of the eyelids. 6. All defædations of the skin, from an erysipelas to a lepra. 7. Diseases of the glands of the nose, with their usual companion a thickness of the lip. 8. Obstructions of the kidneys, where there is no inflammation, and the stone not large. 9. In recent obstructions of the liver, this method will be proper, where it prevents constipations of the belly, and assists other medicines directed in icterical cases. The same remedy is said to be of signal service in the bronchocele; and is likewise recommended for the prevention of

Sea.

those bilious colics that so frequently affect our mariners.

Preservation of Sea-Water from Putrefaction. As it is sometimes necessary to preserve sea-water in casks for bathing and other purposes, it is of importance to know how to keep it from putrefaction. Many experiments were made to determine this point by Mr Henry, and are recorded in the first volume of the Memoirs of the Literary and Philosophical Society of Manchester. His first experiment we shall here present to our readers. "To one quart of sea-water were added two scruples of fresh quicklime; to another, half an ounce of common culinary salt; and a third was kept as a standard without any addition. The mouths of the bottles being loosely covered with paper, they were exposed to the action of the sun in some of the hottest weather in summer. In about a week the standard became very offensive; and the water, with the additional quantity of salt, did not continue sweet many hours longer; whereas that with lime continued many months without ever exhibiting the least marks of putridity." When he added a dram more of quicklime, the whole of the magnesia contained in the water was separated; and when a further addition was made, a lime-water was immediately formed. He therefore concluded, that two scruples of quicklime are sufficient to preserve a quart of sea-water. The proportions, however, may vary a little, according to the strength of the quicklime employed.

1
Different
methods of
freshening
sea-water.

2
Dr Irving's

Freshening of Sea-Water. The method of making sea-water fresh was long a desideratum in navigation. Many methods have been proposed for this purpose. Mr Appleby published an account of a process which he had instituted in the year 1734. He distilled sea-water with a quantity of *lapis infernalis* and calcined bones; but this process was soon laid aside, as it was not only difficult in itself, but rendered the water unpalatable. Dr Butler proposed soap-leys in place of Mr Appleby's ingredients; but the water was still liable to the same objection. Dr Stephen Hales recommended powdered chalk; but his method was expensive, and did not improve the taste of the water. Dr Lind of Portsmouth distilled sea-water without any ingredients; but as the experiment he made was performed in a vessel containing only two quarts, with a glass receiver in his study, nothing conclusive can be drawn from it for the use of sailors. At length Dr Irving brought the process to a very high degree of simplicity and perfection, by which the water is obtained pure, without much expence of fuel or a complicated apparatus. For this valuable discovery he received a reward of L. 5000. The advantages of his method remain to be stated, which may be reduced to the following: 1. The abolishing all stills, still heads, worm-pipes, and their tubes, which occupy so much space as to render them totally incompatible with the necessary business of the ship; and using in the room of these the ship's kettle or boiler, to the top whereof may occasionally be applied a simple tube, which can be easily made on board a vessel at sea, of iron plate, stove funnel, or tin sheet; so that no situation can prevent a ship from being completely supplied with the means of distilling sea-water. 2. In consequence of the principles of distillation being fully ascertained, the contrivance of the simplest means

of obtaining the greatest quantity of distilled water, by making the tube sufficiently large to receive the whole column of vapour, and placing it nearly in a horizontal direction, to prevent any compression of the fluid, which takes place so much with the common worm. 3. The adopting of the simplest and most efficacious means of condensing vapour; for nothing more is required in the distillation but keeping the surface of the tube always wet, which is done by having some sea-water at hand, and a person to dip a mop or swab into this water, and pass it along the upper surface of the tube. By this operation the vapour contained in the tube will be entirely condensed with the greatest rapidity imaginable; for by the application of the wet mop thin sheets of water are uniformly spread, and mechanically pressed upon the surface of the hot tube; which being converted into vapour make way for a succession of fresh sheets; and thus, both by the evaporation and close contact of the cold water constantly repeated, the heat is carried off more effectually than by any other method yet known. 4. The carrying on the distillation without any addition, a correct chemical analysis of sea-water having evinced the futility of mixing ingredients with it, either to prevent an acid from rising with the vapour, or to destroy any bituminous oil supposed to exist in sea-water, and to contaminate the distilled water, giving it that fiery unpalatable taste inseparable from the former processes. 5. The ascertaining the proper quantity of sea-water that ought to be distilled, whereby the fresh water is prevented from contracting a noxious impregnation of metallic salts, and the vessel from being corroded and otherwise damaged by the salts caking on the bottom of it. 6. The producing a quantity of sweet and wholesome water, perfectly agreeable to the taste, and sufficient for all the purposes of shipping. 7. The taking advantage of the dressing the ship's provisions, so as to distil a very considerable quantity of water from the vapour, which would otherwise be lost, without any addition of fuel. To sum up the merits of this method in a few words: The use of a simple tube, of the most easy construction, applicable to any ship's kettle. The rejecting all ingredients; ascertaining the proportion of water to be distilled, with every advantage of quality, saving of fuel, and preservation of boilers. The obtaining fresh water, wholesome, palatable, and in sufficient quantities. Taking advantage of the vapour which ascends in the kettle while the ship's provisions are boiling. All these advantages are obtained by the above-mentioned simple addition to the common ship's kettles. But Dr Irving proposes to introduce two further improvements. The first is a hearth, or stove, so constructed that the fire which is kept up the whole day for the common business of the ship serves likewise for distillation; whereby a sufficient quantity of water for all the economical purposes of the ship may be obtained, with a very inconsiderable addition to the expence of fuel. The other improvement is that of substituting, even in the largest ships, cast-iron boilers, of a new construction, in the place of coppers.

As soon as sea-water is put into the boiler, the tube is to be fitted either into the top or lid, round which, if necessary, a bit of wet linen may be applied, to make it fit close to the mouth of the vessel; there will be no occasion for luting, as the tube acts like a funnel in carrying

Sea.

3
Directions
for distilling
sea-water.

Sea.

rying off the vapour. When the water begins to boil, the vapour should be allowed to pass freely for a minute, which will effectually clean the tube and upper part of the boiler. The tube is afterwards to be kept constantly wet, by passing a mop or swab, dipped in sea water, along its upper surface. The waste water running from the mop may be carried off by means of a board made like a spout, and placed beneath the tube. The distillation may be continued till three-fourths of the water be drawn off, and no further. This may be ascertained either by a gauge-rod put into the boiler, or by measuring the water distilled. The brine is then to be let out. Water may be distilled in the same manner while the provisions are boiling. When the tube is made on shore, the best substance for the purpose is thin copper well tinned, this being more durable in long voyages than tin-plates. Instead of mopping, the tube, if required, may have a case made also of copper, so much larger in diameter as to admit a thin sheet of water to circulate between them by means of a spiral copper thread, with a pipe of an inch diameter at each end of the case; the lower for receiving cold water, and the upper for carrying it off when heated.

Plate
CCCCXLVIII.

When only a very small portion of room can be conveniently allowed for distillation, the machine (n° 2.), which is only 27 inches long, may be substituted, as was done in this voyage. The principal intention of this machine, however, is to distil rum and other liquors; for which purpose it has been employed with extraordinary success, in preventing an *empyreuma*, or fiery taste.

Figure 1. represents in perspective a section of the two boilers taken out of the frame. In the back part at D, E, are seen openings for the cocks. On the top is a distilling tube A, B, C, five inches diameter at A, and decreasing in size to three inches at C; the length from B to C is five feet. Near C is a ring to prevent the water which is applied to the surface from mixing with the distilled water. In the inside of the tube, below B, is a small lip or ledging, to hinder the distilled water from returning into the boiler by the rolling of the ship.

In figure 2. A, B, C, D, represent a vertical section of a copper box, 27 inches long, seven inches wide, and 11 in height, tinned on the inside. In the bottom F is an aperture about six inches in diameter, having a ring to fit on the still or boiler. The dotted lines which run nearly horizontal, are vessels of thin copper, tinned on the outside, two feet long, seven inches wide, and three quarters of an inch deep. At G is a funnel to receive cold water, which is conveyed into the vessels by communicating pipes, contrived in such a manner as to form a complete and quick circulation of the water through their whole extent. When the water is become hot by the action of the steam, it is discharged by the horizontal pipe at A. E is a pipe from which the distilled water or spirits run, and is bent in such a form that the liquor running from it acts as a valve, and hinders any steam from escaping that way. On the top of the box, at H, is a safety-valve, which prevents any danger from a great accumulation of vapour not condensed for want of a proper supply of cold water.

4
Lorgna's
method of
freshening
it by conge-
lation.

We shall now mention a different method, discovered by the Chevalier Lorgna, by congelation of sea-water. Sea-water requires a very great degree of cold in order to become ice. Our author found that a freezing mix-

ture, made by mixing three parts of pounded ice with two parts of common salt, was quite sufficient to freeze it. The cold produced by this mixture is equal to about 4° below nought of Fahrenheit's thermometer.

A quantity of sea-water is never entirely congealed, a portion of it always remaining fluid; and, what is very remarkable, this fluid part is incomparably more full of salt and more nauseous than the rest: hence, if this be separated from the congealed part, the latter on being melted will be found to contain much less salt than it did before congelation. This we shall call *the water of the first purification*.

If the water of the first purification be again congealed, a part of it will remain fluid as in the first operation. This fluid portion will contain a greater proportion of salt than the rest, which is of course more pure, and, being melted, forms the water of the second purification. Thus, by repeatedly freezing the same sea-water, and separating the fluid from the congealed part in every operation, it is at last perfectly purified, so as to be entirely divested of salt, and as fit for drink and other purposes as the purest water that is used.

At first the sea-water, in order to be congealed, requires a very great degree of cold, as mentioned above, the ice formed in it consists rather of scales or filaments than of a compact body, and the quantity of the fluid parts bears a considerable proportion to the quantity of ice. But as the water, by undergoing the successive congelations, becomes more and more pure, so it becomes capable of being congealed by a smaller and smaller degree of cold; the ice is at the same time more compact, and in greater quantity; the fluid part at last becoming very inconsiderable.

SEA-Weed, or *Alga Marina*, is commonly used as a manure on the sea-coast, where it can be procured in abundance. The best sort grows on rocks, and is that from which kelp is made. The next to this is called the *peasy sea-weed*; and the worst is that with a long stalk. In the neighbourhood of Berwick, the farmers mix it with stable-dung and earth, and thus obtain a great quantity of excellent manure. Sea-weed is found also to be a very fit manure for gardens, as it not only enriches them, but destroys the vermin by which they are usually infested.

SEA-Wolf. See ANARRHICAS.

Saltiness of the SEA. See SEA-Water.

South SEA. See PACIFIC Ocean, and SOUTH Sea.

SEAL, a puncheon, piece of metal, or other matter, usually either round or oval; whereon are engraven the arms, device, &c. of some prince, state, community, magistrate, or private person, often with a legend or inscription; the impression whereof in wax serves to make acts, instruments, &c. authentic.

The use of seals, as a mark of authenticity to letters and other instruments in writing, is extremely ancient. We read of it among the Jews and Persians in the earliest and most sacred records of history. And in the book of Jeremiah there is a very remarkable instance, not only of an attestation by seal, but also of the other usual formalities attending a Jewish purchase. In the civil law also, seals were the evidence of truth, and were required, on the part of the witnesses at least, at the attestation of every testament. But in the times of our Saxon ancestors, they were not much in use in England. For though Sir Edward Coke relies on an instance

Sea.

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Seal.

Seal.

instance of king Edwyn's making use of a seal about 100 years before the conquest, yet it does not follow that this was the usage among the whole nation: and perhaps the charter he mentions may be of doubtful authority, from this very circumstance of its being sealed; since we are assured by all our ancient historians that sealing was not then in common use. The method of the Saxons was, for such as could write to subscribe their names, and, whether they could write or not, to affix the sign of the cross; which custom our illiterate vulgar do for the most part to this day keep up, by signing a cross for their mark when unable to write their names. And indeed this inability to write, and therefore making a cross in its stead, is honestly avowed by Cædwalla, a Saxon king, at the end of one of his charters. In like manner, and for the same unfurmountable reason, the Normans, a brave but illiterate nation, at their first settlement in France used the practice of sealing only, without writing their names; which custom continued when learning made its way among them, though the reason for doing it had ceased; and hence the charter of Edward the Confessor to Westminster-abbey, himself being brought up in Normandy, was witnessed only by his seal, and is generally thought to be the oldest sealed charter of any authenticity in England. At the Conquest, the Norman lords brought over into this kingdom their own fashions; and introduced waxen seals only, instead of the English method of writing their names, and signing with the sign of the cross. The impressions of these seals were sometimes a knight on horseback, sometimes other devices; but coats of arms were not introduced into seals, nor indeed used at all till about the reign of Richard I. who brought them from the croisade in the Holy Land, where they were first invented and painted on the shields of the knights, to distinguish the variety of persons of every Christian nation who resorted thither, and who could not, when clad in complete steel, be otherwise known or ascertained.

This neglect of signing, and resting only upon the authenticity of seals, remained very long among us; for it was held in all our books, that sealing alone was sufficient to authenticate a deed: and so the common form of attesting deeds, "sealed and delivered," continues to

this day; notwithstanding the statute 29 Car. II. c. 3. revives the Saxon custom, and expressly directs the signing in all grants of lands and many other species of deeds: in which, therefore, signing seems to be now as necessary as sealing, though it hath been sometimes held that the one includes the other.

The king's *great seal* is that whereby all patents, commissions, warrants, &c. coming down from the king are sealed; the keeping whereof is in the hands of the lord chancellor. The king's *privy-seal* is a seal that is usually first set to grants that are to pass the great seal.

SEAL. See *KEEPER of the Privy-Seal*.

SEAL is also used for the wax or lead, and the impression thereon affixed to the thing sealed.

An amalgam of mercury with gold, reduced to the consistence of butter, by straining off part of the mercury through leather, has been recommended as a proper material for taking off the impression of seals in wax. In this state, the compound scarcely contains one part of mercury to two of gold; yet is of a silver whiteness, as if there was none of the precious metal in it. In this state it grows soft on being warmed or worked between the fingers; and is therefore proper for the purpose above-mentioned, but is not superior to some amalgams made with the inferior metals, as is well known to some impostors, who have sold for this use amalgams of the base metals as curious preparations of gold.

SEAL, in zoology. See *PHOCA*.

SEALER, an officer in chancery appointed by the lord chancellor or keeper of the great seal to seal the writs and instruments there made in his presence.

SEALING, in architecture, the fixing a piece of wood or iron in a wall with plaster, mortar, cement, lead, or other solid binding. For staples, hinges, and joints, plaster is very proper.

SEALING-Wax. See *WAX*.

SEAM, or SEME of corn, is a measure of eight bushels.

SEAM of Glass, the quantity of 120 pounds, or 24 stones, each five pounds weight. The seam of wood is an horse-load.

SEAM, in mines, the same with a vein or stratum of metal.

S E A M A N S H I P.

Definition.

BY this word we express that noble art, or, more purely, the qualifications which enable a man to exercise the noble art of working a ship. A SEAMAN, in the language of the profession, is not merely a mariner or labourer on board a ship, but a man who understands the structure of this wonderful machine, and every subordinate part of its mechanism, so as to enable him to employ it to the best advantage for pushing her forward in a particular direction, and for avoiding the numberless dangers to which she is exposed by the violence of the winds and waves. He also knows what courses can be held by the ship, according to the wind that blows, and what cannot, and which of these is most conducive to her progress in her intended voyage: and he must be able to perform every part of the

necessary operation with his own hands. As the seamen express it, he must be able "to hand, reef, and steer."

We are justified in calling it a *noble art*, not only by its importance, which it is quite needless to amplify or embellish, but by its immense extent and difficulty, and the prodigious number and variety of principles on which it is founded—all of which must be possessed in such a manner that they shall offer themselves without reflection in an instant, otherwise the pretended seaman is but a lubber, and cannot be trusted on his watch.

The art is practised by persons without what we call *education*, and in the humbler walks of life, and therefore it suffers in the estimation of the careless spectator. It is thought little of, because little attention is paid.

3
Difficulty
of the art,

paid to it. But if multiplicity, variety, and intricacy of principles, and a systematic knowledge of these principles, intitle any art to the appellation of *scientific* and *liberal*, seamanship claims these epithets in an eminent degree. We are amused with the pedantry of the seaman, which appears in his whole language. Indeed it is the only pedantry that amuses. A scholar, a soldier, a lawyer, nay, even the elegant courtier, would disgust us, were he to make the thousandth part of the allusions to his profession that is well received from the jolly seaman; and we do the seaman no more than justice. His profession *must* engross his whole mind, otherwise he can never learn it. He possesses a prodigious deal of knowledge; but the honest tar cannot tell what he knows, or rather what he feels, for his science is really at his fingers ends. We can say with confidence, that if a person of education, versed in mechanics, and acquainted with the structure of a ship, were to observe with attention the movements which are made on board a first or second rate ship of war during a shifting storm, under the direction of an intelligent officer, he would be rapt in admiration.

What a pity it is that an art so important, so difficult, and so intimately connected with the invariable laws of mechanical nature, should be so held by its possessors, that it cannot improve, but must die with each individual. Having no advantages of previous education, they cannot arrange their thoughts; they can hardly be said to think. They can far less express or communicate to others the intuitive knowledge which they possess; and their art, acquired by habit alone, is little different from an instinct. We are as little intitled to expect improvement here as in the architecture of the bee or the beaver. The species (pardon the allusion ye generous hearts of oak) cannot improve. Yet a ship is a machine. We know the forces which act on it, and we know the results of its construction—all these are as fixed as the laws of motion. What hinders this to be reduced to a set of practical maxims, as well founded and as logically deduced as the working of a steam engine or a cotton mill. The stoker or the spinner acts only with his hands, and may "whistle as he works for want of thought;" but the mechanist, the engineer, thinks for him, improves his machine, and directs him to a better practice. May not the rough seaman look for the same assistance; and may not the ingenious speculatist in his closet unravel the intricate thread of mechanism which connects all the manual operations with the unchangeable laws of nature, and both furnish the seaman with a better machine and direct him to a more dexterous use of it?

4
Which has
been zeal-
ously culti-
vated by
the French
philoso-
phers.

We cannot help thinking that much may be done; nay, we may say that much has been done. We think highly of the progressive labours of Renaud, Pitot, Bouguer, Du Hamel, Groignard, Bernoulli, Euler, Romme, and others; and are both surprised and sorry that Britain has contributed so little in these attempts. Gordon is the only one of our countrymen who has given a professedly scientific treatise on a small branch of the subject. The government of France has always been strongly impressed with the notion of great improvements being attainable by systematic study of this art; and we are indebted to the endeavours of that ingenious nation for any thing of practical importance that has

been obtained. M. Bouguer was professor of hydrology at one of the marine academies of France, and was enjoined, as part of his duty, to compose dissertations both on the construction and the working of ships. His *Traité du Navire*, and his *Manœuvre des Vaisseaux*, are undoubtedly very valuable performances: So are those of Euler and Bernoulli, considered as mathematical dissertations, and they are wonderful works of genius, considered as the productions of persons who hardly ever saw a ship, and were totally unacquainted with the profession of a seaman. In this respect Bouguer had great superiority, having always lived at a sea-port, and having made many very long voyages. His treatises therefore are infinitely better accommodated to the demands of the seaman, and more directly instructive; but still the author is more a mathematician than an artist, and his performance is intelligible only to mathematicians. It is true, the academical education of the young gentlemen of the French navy is such, that a great number of them may acquire the preparatory knowledge that is necessary; and we are well informed that, in this respect, the officers of the British navy are greatly inferior to them.

But this very circumstance has furnished to many persons an argument against the utility of those per-⁵formances. It is said that, "notwithstanding this superior mathematical education, and the possession of those boasted performances of M. Bouguer, the French are greatly inferior, in point of seamanship, to our countrymen, who have not a page in their language to instruct them, and who could not peruse it if they had it." Nay, so little do the French themselves seem sensible of the advantage of these publications, that no person among them has attempted to make a familiar abridgement of them, written in a way fitted to attract attention; and they still remain neglected in their original abstruse and uninteresting form.

We wish that we could give a satisfactory answer to this observation. It is just, and it is important. These very ingenious and learned dissertations are by no means so useful as we should expect. They are large books, and appear to contain much; and as their plan is logical, it seems to occupy the whole subject, and therefore to have done almost all that can be done. But, alas! they have only opened the subject, and the study is yet in its infancy. The whole science of the art must proceed on the knowledge of the impulsions of the wind and water. These are the forces which act on the machine; and its motions, which are the ultimatum of our research, whether as an end to be obtained or as a thing to be prevented, must depend on these forces. Now it is with respect to this fundamental point that we are as yet almost totally in the dark. And, in the performances of M. Bouguer, as also in those of the other authors we have named, the theory of these forces, by which their quantity and the direction of their action are ascertained, is altogether erroneous; and its results deviate so enormously from what is observed in the motions of a ship, that the person who should direct the operations on shipboard, in conformity to the maxims deducible from M. Bouguer's propositions, would be baffled in most of his attempts, and be in danger of losing the ship. The whole proceeds on the supposed truth of that theory which states the impulse of a fluid

Argument
against the
utility of
their per-
formances.

6
Which are
confessedly
erroneous
in their
fundamen-
tal princi-
ples.

to be in the proportion of the square of the sine of the angle of incidence; and that its action on any small portion, such as a square foot of the sails or hull, is the same as if that portion were detached from the rest, and were exposed, single and alone, to the wind or water in the same angle. But we have shown, in the article *RESISTANCE of Fluids*, both from theory and experience, that both of these principles are erroneous, and this to a very great degree, in cases which occur most frequently in practice, that is, in the small angles of inclination. When the wind falls nearly perpendicular on the sails, theory is not very erroneous; but in these cases, the circumstances of the ship's situation are generally such that the practice is easy, occurring almost without thought; and in this case, too, even considerable deviations from the very best practice are of no great moment. The interesting cases, where the intended movement requires or depends upon very oblique actions of the wind on the sails, and its practicability or impracticability depends on a very small variation of this obliquity; a mistake of the force, either as to intensity or direction, produces a mighty effect on the resulting motion. This is the case in sailing to windward; the most important of all the general problems of seamanship. The trim of the sails, and the course of the ship, so as to gain most on the wind, are very nice things; that is, they are confined within very narrow limits, and a small mistake produces a very considerable effect. The same thing obtains in many of the nice problems of tacking, box-hauling, wearing after lying-to in a storm, &c.

The error in the second assertion of the theory is still greater, and the action on one part of the sail or hull is so greatly modified by its action on another adjoining part, that a stay-sail is often seen hanging like a loose rag, altho' there is nothing between it and the wind; and this merely because a great sail in its neighbourhood sends off a lateral stream of wind, which completely hinders the wind from getting at it. Till the theory of the action of fluids be established, therefore, we cannot tell what are the forces which are acting on every point of the sail and hull: Therefore we cannot tell either the mean intensity or direction of the whole force which acts on any particular sail, nor the intensity and mean direction of the resistance to the hull; circumstances absolutely necessary for enabling us to say what will be their energy in producing a rotation round any particular axis. In like manner, we cannot, by such a computation, find the spontaneous axis of conversion (see *ROTATION*), or the velocity of such conversion. In short, we cannot pronounce with tolerable confidence *a priori* what will be the motions in any case, or what dispositions of the sails will produce the movement we wish to perform. The experienced seaman learns by habit the general effects of every disposition of the sails; and though his knowledge is far from being accurate, it seldom leads him into any very blundering operation. Perhaps he seldom makes the best adjustment possible, but seldom still does he deviate very far from it; and in the most general and important problems, such as working to windward, the result of much experience and many corrections has settled a trim of the sails, which is certainly not far from the truth, but (it must be acknowledged) deviates widely and uniformly from

the theories of the mathematician's closet. The honest tar, therefore, must be indulged in his joke on the useless labours of the mathematician, who can neither hand, reef, nor steer.

After this account of the theoretical performances in the art of seamanship, and what we have said in another place on the small hopes we entertain of seeing a perfect theory of the impulse of fluids, it will not be expected that we enter very minutely on the subject in this place; nor is it our intention. But let it be observed, that the theory is defective in one point only; and although this is a most important point, and the errors in it destroy the conclusions of the chief propositions, the reasonings remain in full force, and the *modus operandi* is precisely such as is stated in the theory. The principles of the art are therefore to be found in these treatises; but false inferences have been drawn, by computing from erroneous quantities. The rules and the practice of the computation, however, are still beyond controversy: Nay, since the process of investigation is legitimate, we may make use of it in order to discover the very circumstance in which we are at present mistaken; for by converting the proposition, instead of finding the motions by means of the supposed forces, combined with the known mechanism, we may discover the forces by means of this mechanism and the observed motions.

We shall therefore in this place give a very general view of the movements of a ship under sail, showing how they are produced and modified by the action of the wind on her sails, the water on her rudder and on her bows. We shall not attempt a precise determination of any of these movements; but we shall say enough to enable the curious landsman to understand how this mighty machine is managed amidst the fury of the winds and waves: and, what is more to our wish, we hope to enable the uninstructed but thinking seaman to generalize that knowledge which he possesses; to class his ideas, and give them a sort of rational system; and even to improve his practice, by making him sensible of the immediate operation of every thing he does, and in what manner it contributes to produce the movement which he has in view.

A ship may be considered at present as a mass of inert matter in free space, at liberty to move in every direction, according to the forces which impel or resist her: and when she is in actual motion, in the direction of her course, we may still consider her as at rest in absolute space, but exposed to the impulse of a current of water moving equally fast in the opposite direction: for in both cases the pressure of the water on her bows is the same; and we know that it is possible, and frequently happens in currents, that the impulse of the wind on her sails, and that of the water on her bows, balance each other so precisely, that she not only does not stir from the place, but also remains steadily in the same position, with her head directed to the same point of the compass. This state of things is easily conceived by any person accustomed to consider mechanical subjects, and every seaman of experience has observed it. It is of importance to consider it in this point of view; because it gives us the most familiar notion of the manner in which these forces of the wind and water are set in opposition, and made to balance or not to balance each

7
Though use
may be
made of
them:

8
Design of
this article.

9
A ship con-
sidered as in
free space
impelled
and resisted
by opposite
forces.

each other by the intervention of the ship, in the same manner as the goods and the weights balance each other in the scales by the intervention of a beam or steelyard.

To
Impulse of
the wind
on the sails
opposite to
that of the
water on
the bows.

When a ship proceeds steadily in her course, without changing her rate of sailing, or varying the direction of her head, we must in the first place conceive the accumulated impulses of the wind on all her sails as precisely equal and directly opposite to the impulse of the water on her bows. In the next place, because the ship does not change the direction of her keel, she resembles the balanced steelyard, in which the energies of the two weights, which tend to produce rotations in opposite directions, and thus to change the position of the beam, mutually balance each other round the fulcrum; so the energies of the actions of the wind on the different sails balance the energies of the water on the different parts of the hull.

II
Skill of the
seaman dis-
played in
shaping his
course.

The seaman has two principal tasks to perform. The first is to keep the ship steadily in that course which will bring her farthest on in the line of her intended voyage. This is frequently very different from that line, and the choice of the best course is sometimes a matter of considerable difficulty. It is sometimes possible to shape the course precisely along the line of the voyage; and yet the intelligent seaman knows that he will arrive sooner, or with greater safety, at his port, by taking a different course; because he will gain more by increasing his speed than he loses by increasing the distance. Some principle must direct him in the selection of this course. This we must attempt to lay before the reader.

Having chosen such a course as he thinks most advantageous, he must set such a quantity of sail as the strength of the wind will allow him to carry with safety and effect, and must trim the sails properly, or so adjust their positions to the direction of the wind, that they may have the greatest possible tendency to impel the ship in the line of her course, and to keep her steadily in that direction.

His other task is to produce any deviations which he sees proper from the present course of the ship; and to produce these in the most certain, the safest, and the most expeditious manner. It is chiefly in this movement that the mechanical nature of a ship comes into view, and it is here that the superior address and resource of an expert seaman is to be perceived.

Under the article SAILING some notice has been taken of the first task of the seaman, and it was there shown how a ship, after having taken up her anchor and fitted her sails, accelerates her motion, by degrees which continually diminish, till the increasing resistance of the water becomes precisely equal to the diminished impulse of the wind, and then the motion continues uniformly the same so long as the wind continues to blow with the same force and in the same direction.

It is perfectly consonant to experience that the impulse of fluids is in the duplicate ratio of the relative velocity. Let it be supposed that when water moves one foot per second its perpendicular pressure or impulse on a square foot is m pounds. Then, if it be moving with the velocity V estimated in feet per second, its perpendicular impulse on a surface S , containing any number of square feet, must be mSV^2 .

In like manner, the impulse of air on the same sur-

face may be represented by nSV^2 ; and the proportion of the impulse of these two fluids will be that of m to n . We may express this by the ratio of q to 1, making

$$\frac{m}{n} = q.$$

M. Bouguer's computations and tables are on the supposition that the impulse of sea-water moving one foot per second is 23 ounces on a square foot, and that the impulse of the wind is the same when it blows at the rate of 24 feet per second. These measures are all French. They by no means agree with the experiments of others; and what we have already said, when treating of the *RESISTANCE of Fluids*, is enough to show us that nothing like precise measures can be expected. It was shown as the result of a rational investigation, and confirmed by the experiments of Buat and others, that the impulsions and resistances at the same surface, with the same obliquity of incidence and the same velocity of motion, are different according to the form and situation of the adjoining parts. Thus the total resistance of a thin board is greater than that of a long prism, having this board for its front or bow, &c.

We are greatly at a loss what to give as absolute measures of these impulsions.

1. With respect to water. The experiments of the French academy on a prism two feet broad and deep and four feet long, indicate a resistance of 0,973 pounds avoirdupois to a square foot, moving with the velocity of one foot per second at the surface of still water.

Mr Buat's experiments on a square foot wholly immersed in a stream were as follow:

A square foot as a thin plate	1,81 pounds.
Ditto as the front of a box one foot long	1,42
Ditto as the front of a box three feet long	1,29
The resistance of sea-water is about $\frac{1}{15}$ greater.	

2. With respect to air, the varieties are as great.—The resistance of a square foot to air moving with the velocity of one foot per second appears from Mr Robins's experiments on 16 square inches to be on a square foot

Chevalier Borda's on 16 inches	0,001596 pounds,
on 81 inches	0,001757
Mr Rouse's on large surfaces	0,002042
	0,002291

Precise measures are not to be expected, nor are they necessary in this inquiry. Here we are chiefly interested in their proportions, as they may be varied by their mode of action in the different circumstances of obliquity and velocity.

We begin by recurring to the fundamental proposition concerning the impulse of fluids, viz. that the absolute pressure is always in a direction perpendicular to the impelled surface, whatever may be the direction of the stream of fluid. We must therefore illustrate the doctrine, by always supposing a flat surface of sail stretched on a yard, which can be braced about in any direction, and giving this sail such a position and such an extent of surface that the impulse on it may be the same both as to direction and intensity with that on the real sails. Thus the consideration is greatly simplified. The direction of the impulse is therefore perpendicular to the yard. Its intensity depends on the velocity

12

the water
computed
in ounces
on the
square foot.

11

Direct im-
pulse on
the sail
perpendi-
cular to
the yard.

locity with which the wind meets the sail, and the obliquity of its stroke. We shall adopt the constructions founded on the common doctrine, that the impulse is as the square of the sine of the inclination, because they are simple; whereas, if we were to introduce the values of the oblique impulses, such as they have been observed in the excellent experiments of the Academy of Paris, the constructions would be complicated in the extreme, and we could hardly draw any consequences which would be intelligible to any but expert mathematicians. The conclusions will be erroneous, not in kind but in quantity only; and we shall point out the necessary corrections, so that the final results will be found not very different from real observation.

14
A ship
compared
to an ob-
long box,

If a ship were a round cylindrical body like a flat tub, floating on its bottom, and fitted with a mast and sail in the centre, she would always sail in a direction perpendicular to the yard. This is evident. But she is an oblong body, and may be compared to a chest, whose length greatly exceeds its breadth. She is so shaped, that a moderate force will push her through the water with the head or stern foremost; but it requires a very great force to push her sidewise with the same velocity. A fine sailing ship of war will require about 12 times as much force to push her sidewise as to push her head foremost. In this respect therefore she will very much resemble a chest whose length is 12 times its breadth; and whatever be the proportion of these resistances in different ships, we may always substitute a box which shall have the same resistances headwise and sidewise.

Let EFGH (fig. 1.) be the horizontal section of such a box, and AB its middle line, and C its centre. In whatever direction this box may chance to move, the direction of the whole resistance on its two sides will pass through C. For as the whole stream has one inclination to the side EF, the equivalent of the equal impulses on every part will be in a line perpendicular to the middle of EF. For the same reason, it will be in a line perpendicular to the middle of FG. These perpendiculars must cross in C. Suppose a mast erected at C, and YC_y to be a yard hoisted on it carrying a sail. Let the yard be first conceived as braced right athwart at right angles to the keel, as represented by Y'y'. Then, whatever be the direction of the wind abaft this sail, it will impel the vessel in the direction CB. But if the sail has the oblique position Yy, the impulse will be in the direction CD perpendicular to CY, and will both push the vessel ahead and sidewise: For the impulse CD is equivalent to the two impulses CK and CI (the sides of a rectangle of which CD is the diagonal). The force CI pushes the vessel ahead, and CK pushes her sidewise. She must therefore take some intermediate direction *ab*, such that the resistance of the water to the plane FG is to its resistance to the plane EF as CI to CK.

15
Makes lee-
way when
not sailing
directly be-
fore the
wind.

The angle *b* CB between the real course and the direction of the head is called the *LEEWAY*; and in the course of this dissertation we shall express it by the symbol *x*. It evidently depends on the shape of the vessel and on the position of the yard. An accurate knowledge of the quantity of leeway, corresponding to different circumstances of obliquity of impulse, extent of surface, &c. is of the utmost importance in the practice

of navigation; and even an approximation is valuable. The subject is so very difficult that this must content us for the present.

Let *V* be the velocity of the ship in the direction *Cb*, and let the surfaces FG and FE be called *A'* and *B'*. Then the resistance to the lateral motion is $mV^2 \times B' \times \sin^2 b$ CB, and that to the direct motion is $mV^2 \times A' \times \sin^2 b$ CK, or $mV^2 \times A' \times \cos^2 b$ CB. Therefore these resistances are in the proportion of $B' \times \sin^2 x$ to $A' \times \cos^2 x$ (representing the angle of leeway *b* CB by the symbol *x*).

Therefore we have $CI : CK$, or $CI : ID = A' : B' \times \frac{\sin^2 x}{\cos^2 x} = A : B \cdot \tan^2 x$.

Let the angle YCB, to which the yard is braced up, be called the *TRIM* of the sails, and expressed by the symbol *b*. This is the complement of the angle DCI. Now $CI : ID = \text{rad.} : \tan. DCI$, $= 1 : \tan. DCI$, $= 1 : \cotan. b$. Therefore we have finally $1 : \cotan. b = A' : B' \cdot \tan^2 x$, and $A' \cdot \cotan. b = B' \cdot \tan^2 x$, and $\tan^2 x = \frac{A}{B} \cot. b$. This equation evidently ascertains the mutual relation between the trim of the sails and the leeway in every case where we can tell the proportion between the resistances to the direct and broadside motions of the ship, and where this proportion does not change by the obliquity of the course. Thus, suppose the yard braced up to an angle of 30° with the keel. Then $\cotan. 30^\circ = 1.732$ very nearly. Suppose also that the resistance sidewise is 12 times greater than the resistance headwise. This gives $A' = 1$ and $B' = 12$. Therefore $1.732 = 12 \times \tan^2 x$, and $\tan^2 x = \frac{1.732}{12}$, $= 0.14434$, and $\tan. x = 0.3799$, and $x = 20^\circ 48'$, very nearly two points of leeway.

This computation, or rather the equation which gives room for it, supposes the resistances proportional to the squares of the sines of incidence. The experiments of the Academy of Paris, of which an abstract is given in the article *RESISTANCE of Fluids*, show that this supposition is not far from the truth when the angle of incidence is great. In this present case the angle of incidence on the front FG is about 70° , and the experiments just now mentioned show that the real resistances exceed the theoretical ones only $\frac{1}{18}$. But the angle of incidence on EF is only $20^\circ 48'$. Experiment shows that in this inclination the resistance is almost quadruple of the theoretical resistances. Therefore the lateral resistance is assumed much too small in the present instance. Therefore a much smaller leeway will suffice for producing a lateral resistance which will balance the lateral impulse CK, arising from the obliquity of the sail, viz. 30° . The matter of fact is, that a pretty good sailing ship, with her sails braced to this angle at a medium, will not make above five or six degrees leeway in smooth water and easy weather; and yet in this situation the hull and rigging present a very great surface to the wind, in the most improper positions, so as to have a very great effect in increasing her leeway. And if we compute the resistances for this leeway of six degrees by the actual experiments of the French Academy on that angle, we shall find the result not far from

from the truth; that is, the direct and lateral resistances will be nearly in the proportion of CI to ID.

It results from this view of the matter, that the leeway is in general much smaller than what the usual theory assigns.

17
Which depends on the trim of the sails.

We also see, that according to whatever law the resistances change by a change of inclination, the leeway remains the same while the trim of the sails is the same. The leeway depends only on the direction of the impulse of the wind; and this depends solely on the position of the sails with respect to the keel, whatever may be the direction of the wind. This is a very important observation, and will be frequently referred to in the progress of the present investigation. Note, however, that we are here considering only the action on the sails, and on the same sails. We are not considering the action of the wind on the hull and rigging. This may be very considerable; and it is always in a lee direction, and augments the leeway; and its influence must be so much the more sensible as it bears a greater proportion to the impulse on the sails. A ship under courses, or close-reefed top-sails and courses, must make more leeway than when under all her canvas trimmed to the same angle. But to introduce this additional cause of deviation here would render the investigation too complicated to be of any use.

18
Illustration of this doctrine by experiments

This doctrine will be considerably illustrated by attending to the manner in which a lighter is tracked along a canal, or swings to its anchor in a stream. The track rope is made fast to some staple or bolt E on the deck (fig. 2.), and is passed between two of the timberheads of the bow at D, and laid hold of at F on shore. The men or cattle walk along the path FG, the rope keeps extended in the direction DF, and the lighter arranges itself in an oblique position AB, and is thus dragged along in the direction ab , parallel to the side of the canal. Or, if the canal has a current in the opposite direction ba , the lighter may be kept steady in its place by the rope DF made fast to a post at F. In this case, it is always observed that the lighter swings in a position AB, which is oblique to the stream ab . Now the force which retains it in this position, and which precisely balances the action of the stream, is certainly exerted in the direction DF; and the lighter would be held in the same manner if the rope were made fast at C amidship, without any dependence on the timberheads at D; and it would still be held in the same position, if, instead of the single rope CF, it were riding by two ropes CG and CH, of which CH is in a direction right ahead, but oblique to the stream, and the other CG is perpendicular to CH or AB. And, drawing DI and DK perpendicular to AB and CG, the strain on the rope CH is to that on the rope CG as CI to CK. The action of the rope in these cases is precisely analogous to that of the sail y Y; and the obliquity of the keel to the direction of the motion, or to the direction of the stream, is analogous to the leeway. All this must be evident to any person accustomed to mechanical disquisitions.

19
On models and

A most important use may be made of this illustration. If an accurate model be made of a ship, and if it be placed in a stream of water, and ridden in this manner by a rope made fast at any point D of the bow, it will arrange itself in some determined position AB. There will be a certain obliquity to the stream, mea-

sured by the angle Bob ; and there will be a corresponding obliquity of the rope, measured by the angle FCB. Let y CY be perpendicular to CF. Then CY will be the position of the yard, or trim of the sails corresponding to the leeway b CB. Then, if we shift the rope to a point of the bow distant from D by a small quantity, we shall obtain a new position of the ship, both with respect to the stream and the rope; and in this way may be obtained the relation between the position of the sails and the leeway, independent of all theory, and susceptible of great accuracy; and this may be done with a variety of models suited to the most usual forms of ships.

In farther thinking on this subject, we are persuaded ²⁰ On ships. that these experiments, instead of being made on models, may with equal ease be made on a ship of any size. Let the ship ride in a stream at a mooring D (fig. 3.) by means of a short hawser BCD from her bow, having a spring AC on it carried out from her quarter. She will swing to her moorings, till she ranges herself in a certain position AB with respect to the direction ab of the stream; and the direction of the hawser DC will point to some point E of the line of the keel. Now, it is plain to any person acquainted with mechanical disquisitions, that the deviation BE b is precisely the leeway that the ship will make when the average position of the sails is that of the line GEH perpendicular to ED; at least this will give the leeway which is produced by the sails alone. By heaving on the spring, the knot C may be brought into any other position we please; and for every new position of the knot the ship will take a new position with respect to the stream and to the hawser. And we persist in saying, that more information will be got by this train of experiments than from any mathematical theory; for all theories of the impulses of fluids must proceed on physical postulates with respect to the motions of the filaments, which are exceedingly conjectural.

And it must now be farther observed, that the substitution which we have made of an oblong parallelopiped for a ship, although well suited to give us clear notions of the subject, is of small use in practice: for it is next to impossible (even granting the theory of oblique impulsions) to make this substitution. A ship is of a form which is not reducible to equations; and therefore the action of the water on her bow or broadside can only be had by a most laborious and intricate calculation for almost every square foot of its surface. (See *Bezout's Cours de Mathem.* vol. 5. p. 72, &c.) And this must be different for every ship. But, which is more unlucky, when we have got a parallelopiped which will have the same proportion of direct and lateral resistance for a particular angle of leeway, it will not answer for another leeway of the same ship; for when the leeway changes, the figure actually exposed to the action of the water changes also. When the leeway is increased, more of the lee-quarter is acted on by the water, and a part of the weather-bow is now removed from its action. Another parallelopiped must therefore be discovered, whose resistances shall suit this new position of the keel with respect to the real course of the ship.

We therefore beg leave to recommend this train of experiments to the notice of the ASSOCIATION FOR THE IMPROVEMENT OF NAVAL ARCHITECTURE as a very promising method for ascertaining this important point. And

we proceed, in the next place, to ascertain the relation between the velocity of the ship and that of the wind, modified as they may be by the trim of the sails and the obliquity of the impulse.

22
The relation between the velocity of the ship and wind ascertained.

Let AB (fig. 4, 5, and 6.) represent the horizontal section of a ship. In place of all the drawing sails, that is, the sails which are really filled, we can always substitute one sail of equal extent, trimmed to the same angle with the keel. This being supposed attached to the yard DCD, let this yard be first of all at right angles to the keel, as represented in fig. 4. Let the wind blow in the direction WC, and let CE (in the direction WC continued) represent the velocity V of the wind. Let CF be the velocity v of the ship. It must also be in the direction of the ship's motion, because when the sail is at right angles to the keel, the absolute impulse on the sail is in the direction of the keel, and there is no lateral impulse, and consequently no leeway. Draw EF, and complete the parallelogram CFE ϵ , producing ϵ C through the centre of the yard to w . Then w C will be the relative or apparent direction of the wind, and C ϵ or FE will be its apparent or relative velocity: For if the line C ϵ be carried along CF, keeping always parallel to its first position, and if a particle of air move uniformly along CE (a fixed line in absolute space) in the same time, this particle will always be found in that point of CE where it is intersected at that instant by the moving line C ϵ ; so that if C ϵ were a tube, the particle of air, which really moves in the line CE, would always be found in the tube C ϵ . While CE is the real direction of the wind, C ϵ will be the position of the vane at the mast head, which will therefore mark the apparent direction of the wind, or its motion relative to the moving ship.

We may conceive this in another way. Suppose a cannon-shot fired in the direction CE at the passing ship, and that it passes through the mast at C with the velocity of the wind. It will not pass through the off-side of the ship at P, in the line CE: for while the shot moves from C to P, the point P has gone forward, and the point p is now in the place where P was when the shot passed through the mast. The shot will therefore pass through the ship's side in the point p , and a person on board seeing it pass through C and p will say that its motion was in the line Cp.

23
When a ship is in motion the apparent direction of the wind is always different from the real direction.

Thus it happens, that when a ship is in motion the apparent direction of the wind is always ahead of its real direction. The line w C is always found within the angle WCB. It is easy to see from the construction, that the difference between the real and apparent directions of the wind is so much the more remarkable as the velocity of the ship is greater: For the angle WC w or EC ϵ depends on the magnitude of E ϵ or CF, in proportion to CE. Persons not much accustomed to attend to these matters are apt to think all attention to this difference to be nothing but affectation of nicety. They have no notion that the velocity of a ship can have any sensible proportion to that of the wind. "Swift as the wind" is a proverbial expression; yet the velocity of a ship always bears a very sensible proportion to that of the wind, and even very frequently exceeds it. We may form a pretty exact notion of the velocity of the wind by observing the shadows of the summer clouds flying along the face of a country, and it may be very well measured by this method.

thod. The motion of such clouds cannot be very different from that of the air below; and when the pressure of the wind on a flat surface, while blowing with a velocity measured in this way, is compared with its pressure when its velocity is measured by more unexceptionable methods, they are found to agree with all desirable accuracy. Now observations of this kind frequently repeated, show that what we call a pleasant brisk gale blows at the rate of about 10 miles an hour, or about 15 feet in a second, and exerts a pressure of half a pound on a square foot. Mr Smeaton has frequently observed the sails of a windmill, driven by such a wind, moving faster, nay much faster, towards their extremities, so that the sail, instead of being pressed to the frames on the arms, was taken aback, and fluttering on them. Nay, we know that a good ship, with all her sails set and the wind on the beam, will in such a situation sail above 10 knots an hour in smooth water. There is an observation made by every experienced seaman, which shows this difference between the real and apparent directions of the wind very distinctly. When a ship that is sailing briskly with the wind on the beam tacks about, and then sails equally well on the other tack, the wind always appears to have shifted and come more ahead. This is familiar to all seamen. The seaman judges of the direction of the wind by the position of the ship's vanes. Suppose the ship sailing due west on the starboard tack, with the wind apparently N. N. W. the vane pointing S. S. E. If the ship puts about, and stands due east on the larboard tack, the vane will be found no longer to point S. S. E. but perhaps S. S. W. the wind appearing N. N. E. and the ship must be nearly close-hauled in order to make an east course. The wind appears to have shifted four points. If the ship tacks again, the wind returns to its old quarter. We have often observed a greater difference than this. The celebrated astronomer Dr Bradley, taking the amusement of sailing in a pinnace on the river Thames, observed this, and was surprised at it, imagining that the change of wind was owing to the approaching to or retiring from the shore. The boatmen told him that it always happened at sea, and explained it to him in the best manner they were able. The explanation struck him, and set him a musing on an astronomical phenomenon which he had been puzzled by for some years, and which he called THE ABERRATION OF THE FIXED STARS. Every star changes its place a small matter for half a year, and returns to it at the completion of the year. He compared the stream of light from the star to the wind, and the telescope of the astronomer to the ship's vane, while the earth was like the ship, moving in opposite directions when in the opposite points of its orbit. The telescope must always be pointed ahead of the real direction of the star, in the same manner as the vane is always in a direction ahead of the wind; and thus he ascertained the progressive motion of light, and discovered the proportion of its velocity to the velocity of the earth in its orbit, by observing the deviation which was necessarily given to the telescope. Observing that the light shifted its direction about 40", he concluded its velocity to be about 11,000 times greater than that of the earth; just as the intelligent seaman would conclude from this apparent shifting of the wind, that the velocity of the wind is about triple that of the ship. This is indeed the best method for

24
Observation of Dr Bradley on this subject.

for discovering the velocity of the wind. Let the direction of the vane at the mast-head be very accurately noticed on both tacks, and let the velocity of the ship be also accurately measured. The angle between the directions of the ship's head on these different tacks being halved, will give the real direction of the wind, which must be compared with the position of the vane in order to determine the angle contained between the real and apparent directions of the wind or the angle EC ; or half of the observed shifting of the wind will show the inclination of its true and apparent directions. This being found, the proportion of EC to FC (fig. 6.) is easily measured.

We have been very particular on this point, because since the mutual actions of bodies depend on their relative motions only, we should make prodigious mistakes if we estimated the action of the wind by its real direction and velocity, when they differ so much from the relative or apparent.

25
Velocity of
a ship
when its
sails are at
right
angles to
the keel.

We now resume the investigation of the velocity of the ship (fig. 4.), having its sail at right angles to the keel, and the wind blowing in the direction and with the velocity CE , while the ship proceeds in the direction of the keel with the velocity CF . Produce Eg , which is parallel to BC , till it meet the yard in g , and draw FG perpendicular to Eg . Let a represent the angle WCD , contained between the sail and the real direction of the wind, and let b be the angle of trim DCB . CE the velocity of the wind was expressed by V , and CF the velocity of the ship by v .

The absolute impulse on the sail is (by the usual theory) proportional to the square of the relative velocity, and to the square of the sine of the angle of incidence; that is, to $FE^2 \times \sin^2 w CD$. Now the angle $GFE = w CD$, and EG is equal to $FE \times \sin GFE$; and EG is equal to $Eg - gG$. But $Eg = EC \times \sin ECg = V \times \sin a$; and $gG = CF = v$. Therefore $EG = V \times \sin a - v$, and the impulse is proportional to $V^2 \times \sin^2 a - v^2$. If S represent the surface of the sail, the impulse, in pounds, will be $nS(V \times \sin a - v)^2$.

Let A be the surface which, when it meets the water perpendicularly with the velocity v , will sustain the same pressure or resistance which the bows of the ship actually meets with. This impulse, in pounds, will be mAv^2 . Therefore, because we are considering the ship's motion as in a state of uniformity, the two pressures balance each other; and therefore $mAv^2 = nS(V \times \sin a - v)^2$, and $\frac{m}{n}Av^2 = S(V \times \sin a - v)^2$;

$$\text{therefore } \sqrt{\frac{m}{n}} \sqrt{A} \times v = \sqrt{S} \times V \times \sin a - v \sqrt{S},$$

$$\text{and } v = \frac{\sqrt{S} \times v \times \sin a}{\sqrt{\frac{m}{n}A} + \sqrt{S}} = \frac{V \times \sin a}{\sqrt{\frac{m}{n}A} + 1} = \frac{V \times \sin a}{\sqrt{\frac{A}{nS}} + 1}.$$

We see, in the first place, that the velocity of the ship is (*ceteris paribus*) proportional to the velocity of the wind, and to the sine of its incidence on the sail jointly; for while the surface of the sail S and the equivalent surface for the bows remains the same, v increases or diminishes at the same rate with $V \times \sin a$. When the wind is right astern, the sine of a is unity,

and then the ship's velocity is $\frac{V}{\sqrt{\frac{m}{n}A} + 1}.$

Note, that the denominator of this fraction is a common number; for m and n are numbers, and A and S being quantities of one kind, $\frac{A}{S}$ is also a number.

It must also be carefully attended to, that S expresses a quantity of sail actually receiving wind with the inclination a . It will not always be true, therefore, that the velocity will increase as the wind is more abaft, because some sails will then becalm others. This observation is not, however, of great importance; for it is very unusual to put a ship in the situation considered hitherto; that is, with the yards square, unless she be right before the wind.

If we would discover the relation between the velocity and the quantity of sail in this simple case of the wind right aft, observe that the equation $v = \frac{V}{\sqrt{\frac{m}{n}A} + 1}$

gives us $\sqrt{\frac{m}{n}A}v + v = V$, and $\sqrt{\frac{m}{n}A}v = V - v$, and $\frac{m}{n}Av^2 = V^2 - v^2$, and $\frac{nS}{mA} = \frac{v^2}{(V-v)^2}$; and because n and m and A are constant quantities, S is proportional to $\frac{v^2}{(V-v)^2}$, or the surface of sail is proportional to the square of the ship's velocity directly, and to the square of the relative velocity inversely. Thus, if a ship be sailing with $\frac{1}{2}$ of the velocity of the wind, and we would have her sail with $\frac{1}{4}$ of it, we must quadruple the sails. This is more easily seen in another way. The velocity of the ship is proportional to the velocity of the wind; and therefore the relative velocity is also proportional to that of the wind, and the impulse of the wind is as the square of the relative velocity. Therefore, in order to increase the relative velocity by an increase of sail only, we must make this increase of sail in the duplicate proportion of the increase of velocity.

Let us, in the next place, consider the motion of a ship whose sails stand oblique to the keel.

The construction for this purpose differs a little from the former, because, when the sails are trimmed to any oblique position DCB (fig. 5. and 6.), there must be a deviation from the direction of the keel, or a leeway BCb . Call this x . Let CE be the velocity of the ship. Draw, as before, Eg perpendicular to the yard, and FG perpendicular to Eg ; also draw FH perpendicular to the yard: then, as before, EG , which is in the subduplicate ratio of the impulse on the sail, is equal to $Eg - Gg$. Now Eg is, as before, $= V \times \sin a$, and Gg is equal to FH , which is $= CF \times \sin FCH$, or $= v \times \sin (b+x)$. Therefore we have the impulse $= nS(V \times \sin a - v \times \sin (b+x))^2$.

This expression of the impulse is perfectly similar to that in the former case, its only difference consisting in the subductive part, which is here $v \times \sin (b+x)$ instead of v . But it expresses the same thing as before, viz. the diminution of the impulse. The impulse being reckoned solely in the direction perpendicular to the sail,

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its velocity
when the
sails stand
oblique to
the keel.

it is diminished solely by the sail withdrawing itself in that direction from the wind; and as gE may be considered as the real impulsive motion of the wind, GE must be considered as the relative and effective impulsive motion. The impulse would have been the same had the ship been at rest, and had the wind met it perpendicularly with the velocity GE .

27
Con-
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impulse
and motion
of the ship.

We must now show the connection between this impulse and the motion of the ship. The sail, and consequently the ship, is pressed by the wind in the direction CI perpendicular to the sail or yard with the force which we have just now determined. This (in the state of uniform motion) must be equal and opposite to the action of the water. Draw IL at right angles to the keel. The impulse in the direction CI (which we may measure by CI) is equivalent to the impulses CL and LI . By the first the ship is impelled right forward, and by the second she is driven sidewise. Therefore we must have a leeway, and a lateral as well as a direct resistance. We suppose the form of the ship to be known, and therefore the proportion is known, or discoverable, between the direct and lateral resistances corresponding to every angle x of leeway. Let A be the surface whose perpendicular resistance is equal to the direct resistance of the ship corresponding to the leeway x , that is, whose resistance is equal to the resistance really felt by the ship's bows in the direction of the keel when she is sailing with this leeway; and let B in like manner be the surface whose perpendicular resistance is equal to the actual resistance to the ship's motion in the direction LI , perpendicular to the keel. (*N. B.* This is not equivalent to A' and B' adapted to the rectangular box, but to $A' \cos. x$ and $B' \sin. x$.) We have

therefore $A : B = CL : LI$, and $LI = \frac{CL \cdot B}{A}$. Also,

because $CI = \sqrt{CL^2 + LI^2}$, we have $A : \sqrt{A^2 + B^2} = CL : CI$, and $CI = \frac{CL \cdot \sqrt{A^2 + B^2}}{A}$. The resist-

ance in the direction LC is properly measured by $m A v^2$, as has been already observed. Therefore the resistance in the direction IC must be expressed by $m \sqrt{A^2 + B^2} v^2$; or (making C the surface which is equal to $\sqrt{A^2 + B^2}$, and which will therefore have the same perpendicular resistance to the water having the velocity v) it may be expressed by $m C v^2$.

Therefore, because there is an equilibrium between the impulse and resistance, we have $m C v^2 = n S (V \sin. a - v \sin. b + x)^2$ and $\frac{m}{n} C v^2$, or $q C v^2 = S (V \sin. a - v \sin. b + x)^2$, and $\sqrt{q} \sqrt{C} v = \sqrt{S} (V \sin. a - v \sin. b + x)$.

$$\text{Therefore } v = \frac{\sqrt{S \cdot V \sin. a}}{\sqrt{q \sqrt{C} + \sqrt{S \sin. b + x}}}, = \frac{V \sin. a}{\sqrt{q \frac{\sqrt{C}}{\sqrt{S}} + \sin. b + x}}, = V \frac{\frac{\sqrt{C}}{\sqrt{S}}}{\sqrt{q \frac{\sqrt{C}}{\sqrt{S}} + \sin. b + x}}.$$

Observe that the quantity which is the coefficient of V in this equation is a common number; for $\sin. a$ is a number, being a decimal fraction of the radius 1. $\sin. b + x$ is also a number, for the same reason. And since m and n were numbers of pounds, $\frac{m}{n}$ or q is a

common number. And because C and S are surfaces, or quantities of one kind, $\frac{C}{S}$ is also a common number.

This is the simplest expression that we can think of for the velocity acquired by the ship, though it must be acknowledged to be too complex to be of very prompt use. Its complication arises from the necessity of introducing the leeway x . This affects the whole of the denominator; for the surface C depends on it, because C is $= \sqrt{A^2 + B^2}$, and A and B are analogous to $A' \cos. x$ and $B' \sin. x$.

But we can deduce some important consequences from this theorem. 28
Important
consequen-
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While the surface S of the sail actually filled by the wind remains the same, and the angle DCB , which in future we shall call the *TRIM* of the sails, also remains the same, both the leeway x and the substituted surface C remains the same. The denominator is therefore constant; and the velocity of the ship is proportional to $\sqrt{S \cdot V \sin. a}$; that is, directly as the velocity of the wind, directly as the absolute inclination of the wind to the yard, and directly as the square root of the surface of the sails.

We also learn from the construction of the figure that FG parallel to the yard cuts CE in a given ratio. For CF is in a constant ratio to Eg , as has been just now demonstrated. And the angle DCF is constant. Therefore $CF \sin. b$, or FH or Gg , is proportional to Eg , and OC to EC , or EC is cut in one proportion, whatever may be the angle ECD , so long as the angle DCF is constant.

We also see that it is very possible for the velocity of the ship on an oblique course to exceed that of the wind. This will be the case when the number

$$\frac{\sin. a}{q \frac{C}{S} + \sin. b + x}$$

exceeds unity, or when $\sin. a$ is

$$\text{greater than } \sqrt{q \frac{C}{S} + \sin. b + x}.$$

Now this may easily be by sufficiently enlarging S and diminishing $b + x$. It is indeed frequently seen in fine sailers with all their sails set and not hauled too near the wind.

We remarked above that the angle of leeway x affects the whole denominator of the fraction which expresses the velocity. Let it be observed that the angle ICL is the complement of LCD , or of b . Therefore $CL : LI$, or $A : B = 1 : \tan. ICL = 1 : \cot. b$, and $B = A \cotan. b$. Now A is equivalent to $A' \cos. x$, and thus b becomes a function of x . C is evidently so, being $= \sqrt{A^2 + B^2}$. Therefore before the value of this fraction can be obtained, we must be able to compute, by our knowledge of the form of the ship, the value of A for every angle x of leeway. This can be done only by resolving her bows into a great number of elementary planes, and computing the impulses on each and adding them into one sum. The computation is of immense labour, as may be seen by one example given by Bouguer. When the leeway is but small, not exceeding ten degrees, the substitution of the rectangular prism of one determined form is abundantly exact for all leeways contained within this limit; and we shall soon see rea-

son

for being contented with this approximation. We may now make use of the formula expressing the velocity for solving the chief problems in this part of the seaman's talk.

29
Problem I.
To determine the best position of the sails for standing on a given course, when the direction and velocity of the wind and its angle with the course are given.

And first let it be required to determine the best position of the sail for standing on a given course ab , when CE the direction and velocity of the wind, and its angle with the course WCF , are given. This problem has exercised the talents of the mathematicians ever since the days of Newton. In the article *PNEUMATICS* we gave the solution of one very nearly related to it, namely, to determine the position of the sail which would produce the greatest impulse in the direction of the course. The solution was to place the yard CD in such a position that the tangent of the angle FCD may be one half of the tangent of the angle DCW . This will indeed be the best position of the sail for beginning the motion; but as soon as the ship begins to move in the direction CF , the effective impulse of the wind is diminished, and also its inclination to the sail. The angle DCW diminishes continually as the ship accelerates; for CF is now accompanied by its equal CE , and by an angle ECe or WCe . CF increases, and the impulse on the sail diminishes, till an equilibrium obtains between the resistance of the water and the impulse of the wind. The impulse is now measured by $CE^2 \times \sin.^2 e CD$ instead of $CE^2 \times \sin.^2 ECD$, that is, by EG^2 instead of Eg^2 .

This introduction of the relative motion of the wind renders the actual solution of the problem extremely difficult. It is very easily expressed geometrically: Divide the angle WCF in such a manner that the tangent of DCF may be half of the tangent of DCW , and the problem may be constructed geometrically as follows.

Let WCF (fig. 7.) be the angle between the sail and course. Round the centre C describe the circle $WDFY$; produce WC to Q , so that $CQ = \frac{1}{2}WC$, and draw QY parallel to CF cutting the circle in Y ; bisect the arch WY in D , and draw DC . DC is the proper position of the yard.

Draw the chord WY , cutting CD in V and CF in T ; draw the tangent PD cutting CF in S and CY in R .

It is evident that WY , PR , are both perpendicular to CD , and are bisected in V and D ; therefore (by reason of the parallels QY , CF) $4:3 = QW:CW$, $= YW:TW$, $= RP:SP$. Therefore $PD:PS = 2:3$, and $PD:DS = 2:1$. *Q. E. D.* But this division cannot be made to the best advantage till the ship has attained its greatest velocity, and the angle WCF has been produced.

We must consider all the three angles, a , b , and x as variable in the equation which expresses the value of v , and we must make the fluxion of this equation $= 0$; then, by means of the equation $B = A \cdot \cotan. b$, we must obtain the value of b and of $\dot{b}$ in terms of x and $\dot{x}$. With respect to a , observe, that if we make the angle $WCF = p$, we have $p = a + b + x$; and p being a constant quantity, we have $a + b + x = 0$. Substituting for a , b , $\dot{a}$, and $\dot{b}$, their values in terms of x and $\dot{x}$, in the fluxionary equation $= 0$, we readily obtain $\dot{x}$, and then a and b , which solves the problem.

Let it be required, in the next place, to determine

the course and the trim of the sails most proper for plying to windward.

In fig. 6. draw FP perpendicular to WC . CF is the motion of the ship; but it is only by the motion CP that she gains to windward. Now CP is $= CF \times \cosin. WCF$, or $v \cdot \cosin. (a + b + x)$. This must be rendered a maximum, as follows.

By means of the equation which expresses the value of v and the equation $B = A \cdot \cotan. b$, we exterminate the quantities v and b ; we then take the fluxion of the quantity into which the expression $v \cdot \cosin. (a + b + x)$ is changed by this operation. Making this fluxion $= 0$, we get the equation which must solve the problem. This equation will contain the two variable quantities a and x with their fluxions; then make the coefficient of $\dot{x}$ equal to 0, also the coefficient of $\dot{a}$ equal to 0. This will give two equations which will determine a and x , and from this we get $b = p - a - x$.

Should it be required, in the third place, to find the best course and trim of the sails for getting away from a given line of coast CM (fig. 6.), the process perfectly resembles this last, which is in fact getting away from a line of coast which makes a right angle with the wind. Therefore, in place of the angle WCF , we must substitute the angle $WCM = \pm WCF$. Call this angle e . We must make $v \cdot \cosin. (e \pm a \pm b \pm x)$ a maximum. The analytical process is the same as the former, only e is constant here.

These are the three principal problems which can be solved by means of the knowledge that we have obtained of the motion of the ship when impelled by an oblique sail, and therefore making leeway; and they may be considered as an abstract of this part of M. Bouguer's work. We have only pointed out the process for this solution, and have even omitted some things taken notice of by M. Bezout in his very elegant compendium. Our reasons will appear as we go on. The learned reader will readily see the extreme difficulty of the subject, and the immense calculations which are necessary even in the simplest cases, and will grant that it is out of the power of any but an expert analyst to derive any use from them; but the mathematician can calculate tables for the use of the practical seaman. Thus he can calculate the best position of the sails for advancing in a course 90° from the wind, and the velocity in that course; then for 85° , 80° , 75° , &c. M. Bouguer has given a table of this kind; but to avoid the immense difficulty of the process, he has adapted it to the apparent direction of the wind. We have inserted a few of his numbers, suited to such cases as can be of service, namely, when all the sails draw, or none stand in the way of others. Column 1st is the apparent angle of the wind and course; column 2d is the corresponding angle of the sails and keel; and column 3d is the apparent angle of the sails and wind.

1 WCF	2 DCB	3 WCD
$103^\circ 53'$	$42^\circ 30'$	$61^\circ 23'$
$99^\circ 13'$	40° —	$50^\circ 13'$
$94^\circ 25'$	$37^\circ 30'$	$56^\circ 55'$
$89^\circ 28'$	35° —	$54^\circ 28'$
$84^\circ 23'$	$32^\circ 30'$	$51^\circ 53'$
$79^\circ 06'$	30° —	$49^\circ 06'$
$73^\circ 39'$	$27^\circ 30'$	$46^\circ 09'$
68° —	25° —	43° —

34
Inutility of
these calcu-
lations.

In all these numbers we have the tangent of wCD double of the tangent of DCF .

But this is really doing but little for the seaman. The apparent direction of the wind is unknown to him till the ship is sailing with uniform velocity; and he is still uninformed as to the leeway. It is, however, of service to him to know, for instance, that when the angle of the vanes and yards is 56 degrees, the yard should be braced up to $37^{\circ} 30'$, &c.

But here occurs a new difficulty. By the construction of a square-rigged ship it is impossible to give the yards that inclination to the keel which the calculation requires. Few ships can have their yards braced up to $37^{\circ} 30'$; and yet this is required in order to have an incidence of 56° , and to hold a course $94^{\circ} 25'$ from the apparent direction of the wind, that is, with the wind apparently $4^{\circ} 25'$ abaft the beam. A good sailing ship in this position may acquire a velocity even exceeding that of the wind. Let us suppose it only one half of this velocity. We shall find that the angle WCw is in this case about 29° , and the ship is nearly going 123° from the wind, with the wind almost perpendicular to the sail; therefore this utmost bracing up of the sails is only giving them the position suited to a wind broad on the quarter. It is impossible therefore to comply with the demand of the mathematician, and the seaman must be contented to employ a less favourable disposition of his sails in all cases where his course does not lie at least eleven points from the wind.

Let us see whether this restriction, arising from necessity, leaves any thing in our choice, and makes one course preferable to another. We see that there are a prodigious number of courses, and these the most usual and the most important, which we must hold with one trim of the sails; in particular, sailing with the wind on the beam, and all cases of plying to windward, must be performed with this unfavourable trim of the sails. We are certain that the smaller we make the angle of incidence, real or apparent, the smaller will be the velocity of the ship; but it may happen that we shall gain more to windward, or get sooner away from a lee-coast, or any object of danger, by sailing slowly on one course than by sailing quickly on another.

We have seen that while the trim of the sails remains the same, the leeway and the angle of the yard and course remains the same, and that the velocity of the ship is as the sine of the angle of real incidence, that is, as the sine of the angle of the sail and the real direction of the wind.

Let the ship AB (fig. 8.) hold the course CF , with the wind blowing in the direction WC , and having her yards DCD braced up to the smallest angle BCD which the rigging can admit. Let CF be to CE as the velocity of the ship to the velocity of the wind; join FE and draw Cw parallel to EF ; it is evident that FE is the relative motion of the wind, and wCD is the relative incidence on the sail. Draw FO parallel to the yard DC , and describe a circle through the points COF ; then we say that if the ship, with the same wind and the same trim of the same drawing sails, be made to sail on any other course Cf , her velocity along CF is to the velocity along Cf as CF is to Cf ; or, in other words, the ship will employ the same time in going from C to any point of the circumference CFO .

Join fO . Then, because the angles CFO , cfO are on

the same chord CO , they are equal, and fO is parallel to dCd , the new position of the yard corresponding to the new position of the keel ab , making the angle $dCb = DCB$. Also, by the nature of the circle, the line CF is to Cf as the sine of the angle COF to the sine of the angle COf , that is (on account of the parallels CD , OF and Cd , Of), as the sine of WCD to the sine of WCd . But when the trim of the sails remains the same, the velocity of the ship is as the sine of the angle of the sail with the direction of the wind; therefore CF is to Cf as the velocity on CF to that on Cf , and the proposition is demonstrated.

Let it now be required to determine the best course ³⁵ for avoiding a rock R lying in the direction CR , or for withdrawing as fast as possible from a line of coast PQ . Draw CM through R , or parallel to PQ , and let m be the middle of the arch CmM . It is plain that m is the most remote from CM of any point of the arch CmM , and therefore the ship will recede farther from the coast PQ in any given time by holding the course Cm than by any other course.

This course is easily determined; for the arch $CmM = 360^{\circ} - (\text{arch } CO + \text{arch } OM)$, and the arch CO is the measure of twice the angle CFO , or twice the angle DCB , or twice $b+x$, and the arch OM measures twice the angle ECM .

Thus, suppose the sharpest possible trim of the sails to be 35° , and the observed angle ECM to be 70° ; then $CO + OM$ is $70^{\circ} + 140^{\circ}$ or 210° . This being taken from 360° , leaves 150° , of which the half Mm is 75° , and the angle MCm is $37^{\circ} 30'$. This added to ECM makes ECm $107^{\circ} 30'$, leaving $WCm = 72^{\circ} 30'$, and the ship must hold a course making an angle of $72^{\circ} 30'$ with the real direction of the wind, and WCD will be $37^{\circ} 30'$.

This supposes no leeway. But if we know that under all the sail which the ship can carry with safety and advantage she makes 5 degrees of leeway, the angle DCm of the sail and course, or $b+x$, is 40° . Then $CO + OM = 220^{\circ}$, which being taken from 360° leaves 140° , of which the half is $70^{\circ} = Mm$, and the angle $MCm = 35^{\circ}$, and $ECm = 105^{\circ}$, and $WCm = 75^{\circ}$, and the ship must lie with her head 70° from the wind, making 5 degrees of leeway, and the angle WCD is 35° .

The general rule for the position of the ship is, that the line on shipboard which bisects the angle $b+x$ may also bisect the angle WCM , or make the angle between the course and the line from which we wish to withdraw equal to the angle between the sail and the real direction of the wind.

It is plain that this problem includes that of plying to windward. We have only to suppose ECM to be 90° ; then, taking our example in the same ship, with the same trim and the same leeway, we have $b+x = 40^{\circ}$. This taken from 90° leaves 50° and $WCn = 90 - 25 = 65$, and the ship's head must lie 60° from the wind, and the yard must be 25° from it.

It must be observed here, that it is not always eligible to select the course which will remove the ship fastest from the given line CM ; it may be more prudent to remove from it more securely though more slowly. In such cases the procedure is very simple, viz. to shape the course as near the wind as is possible.

The reader will also easily see that the propriety of these practices is confined to those courses only where the practicable trim of the sails is not sufficiently sharp.

Whenever the course lies so far from the wind that it is possible to make the tangent of the apparent angle of the wind and sail double the tangent of the sail and course, it should be done.

37
The adjustment of the sails supposed in the theory impracticable.

These are the chief practical consequences which can be deduced from the theory. But we should consider how far this adjustment of the sails and course can be performed. And here occur difficulties so great as to make it almost impracticable. We have always supposed the position of the surface of the sail to be distinctly observable and measurable; but this can hardly be affirmed even with respect to a sail stretched on a yard. Here we supposed the surface of the sail to have the same inclination to the keel that the yard has. This is by no means the case; the sail assumes a concave form, of which it is almost impossible to assign the direction of the mean impulse. We believe that this is always considerably to leeward of a perpendicular to the yard, lying between CI and CE (fig. 6.). This is of some advantage, being equivalent to a sharper trim. We cannot affirm this, however, with any confidence, because it renders the impulse on the weather-leech of the sail so exceedingly feeble as hardly to have any effect. In sailing close to the wind the ship is kept so near that the weather-leech of the sail is almost ready to receive the wind edgewise, and to flutter or shiver. The most effective or drawing sails with a side-wind, especially when plying to windward, are the stay-sails. We believe that it is impossible to say, with any thing approaching to precision, what is the position of the general surface of a stay-sail, or to calculate the intensity and direction of the general impulse; and we affirm with confidence that no man can pronounce on these points with any exactness. If we can guess within a third or a fourth part of the truth, it is all we can pretend to; and after all, it is but a guess. Add to this, the sails coming in the way of each other, and either becalming them or sending the wind upon them in a direction widely different from that of its free motion. All these points we think beyond our power of calculation, and therefore that it is in vain to give the seaman mathematical rules, or even tables of adjustment ready calculated; since he can neither produce that medium position of his sails that is required, nor tell what is the position which he employs.

This is one of the principal reasons why so little advantage has been derived from the very ingenious and promising disquisitions of Bouguer and other mathematicians, and has made us omit the actual solution of the chief problems, contenting ourselves with pointing out the process to such readers as have a relish for these analytical operations.

38
The theory itself erroneous,

But there is another principal reason for the small progress which has been made in the theory of seamanship: This is the errors of the theory itself, which supposes the impulsions of a fluid to be in the duplicate ratio of the sine of incidence. The most careful comparison which has been made between the results of this theory and matter of fact is to be seen in the experiments made by the members of the Royal Academy of Sciences at Paris, mentioned in the article *RESISTANCE of Fluids*. We subjoin another abstract of them in the following table; where col. 1st gives the angle of incidence; col. 2d gives the impulsions really observed; col. 3d the impulsions, had they followed the duplicate

ratio of the sines; and col. 4th the impulsions, if they were in the simple ratio of the sines.

Angle of Incid.	Impulsion observed.	Impulse as Sine ² .	Impulse as Sine.
90	1000	1000	1000
84	989	989	995
78	958	957	978
72	908	905	951
66	845	835	914
60	771	750	866
54	693	655	809
48	615	552	743
42	543	448	669
36	480	346	587
30	440	250	500
24	424	165	407
18	414	96	309
12	406	43	208
6	400	11	105

Here we see an enormous difference in the great obliquities. When the angle of incidence is only six degrees, the observed impulse is forty times greater than the theoretical impulse; at 12° it is ten times greater; at 18° it is more than four times greater; and at 24° it is almost three times greater.

No wonder then that the deductions from this theory are so useless and so unlike what we familiarly observe. We took notice of this when we were considering the leeway of a rectangular box, and thus saw a reason for admitting an incomparably smaller leeway than what would result from the laborious computations necessary by the theory. This error in theory has as great an influence on the impulsions of air when acting obliquely on a sail; and the experiments of Mr Robins and of the Chevalier Borda on the oblique impulsions of air are perfectly conformable (as far as they go) to those of the academicians on water. The oblique impulsions of the wind are therefore much more efficacious for pressing the ship in the direction of her course than the theory allows us to suppose; and the progress of a ship plying to windward is much greater, both because the oblique impulses of the wind are more effective, and because the leeway is much smaller, than we suppose. Were not this the case, it would be impossible for a square-rigged ship to get to windward. The impulse on her sails when close-hauled would be so trifling that she would not have a third part of the velocity which we see her acquire: and this trifling velocity would be wasted in leeway; for we have seen that the diminution of the oblique impulses of the water is accompanied by an increase of leeway. But we see that in the great obliquities the impulsions continue to be very considerable, and that even an incidence of six degrees gives an impulse as great as the theory allows to an incidence of 40. We may therefore, on all occasions, keep the yards more square; and the loss which we sustain by the diminution of the very oblique impulse will be more than compensated by its more favourable direction with respect to the ship's keel. Let us take an example of this. Suppose the wind about two points before the beam, making an angle of 68° with the keel. The theory assigns 43° for the inclination of the wind to

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And the deductions from it useless.

D d the

the sail, and 25° for the trim of the sail. The perpendicular impulse being supposed 1000, the theoretical impulse for 43° is 465. This reduced in the proportion of radius to the sine of 25° , gives the impulse in the direction of the course only 197.

But if we ease off the lee-braces till the yard makes an angle of 50° with the keel, and allows the wind an incidence of no more than 18° , we have the experimented impulse 414, which, when reduced in the proportion of radius to the sine of 50° , gives an effective impulse 317. In like manner, the trim 56° , with the incidence 12° , gives an effective impulse 337; and the trim 62° , with the incidence only 6° , gives 353.

Hence it would at first sight appear that the angle DCB of 62° and WCD of 6° would be better for holding a course within six points of the wind than any more oblique position of the sails; but it will only give a greater initial impulse. As the ship accelerates, the wind apparently comes ahead, and we must continue to brace up as the ship freshens her way. It is not unusual for her to acquire half or two thirds of the velocity of the wind; in which case the wind comes apparently ahead more than two points, when the yards must be braced up to 35° , and this allows an impulse no greater than about 7° . Now this is very frequently observed in good ships, which in a brisk gale and smooth water will go five or six knots close-hauled, the ship's head six points from the wind, and the sails no more than just full, but ready to shiver by the smallest luff. All this would be impossible by the usual theory; and in this respect these experiments of the French academy give a fine illustration of the seaman's practice. They account for what we should otherwise be much puzzled to explain; and the great progress which is made by a ship close-hauled being perfectly agreeable to what we should expect from the law of oblique impulsion deducible from these so often mentioned experiments, while it is totally incompatible with the common theory, should make us abandon the theory without hesitation, and strenuously set about the establishment of another, founded entirely on experiments. For this purpose the experiments should be made on the oblique impulsions of air on as great a scale as possible, and in as great a variety of circumstances, so as to furnish a series of impulsions for all angles of obliquity. We have but four or five experiments on this subject, viz. two by Mr Robins and two or three by the Chevalier Borda. Having thus gotten a series of impulsions, it is very practicable to raise on this foundation a practical institute, and to give a table of the velocities of a ship suited to every angle of inclination and of trim; for nothing is more certain than the resolution of the impulse perpendicular to the sail into a force in the direction of the keel, and a lateral force.

We are also disposed to think that experiments might be made on a model very nicely rigged with sails, and trimmed in every different degree, which would point out the mean direction of the impulse on the sails, and the comparative force of these impulses in different directions of the wind. The method would be very similar to that for examining the impulse of the water on the hull. If this can also be ascertained experimentally, the intelligent reader will easily see that the whole motion of a ship under sail may be determined for every case. Tables may then be constructed by calculation,

or by graphical operations, which will give the velocities of a ship in every different course, and corresponding to every trim of sail. And let it be here observed, that the trim of the sail is not to be estimated in degrees of inclination of the yards; because, as we have already remarked, we cannot observe nor adjust the lateen sails in this way. But, in making the experiments for ascertaining the impulse, the exact position of the tacks and sheets of the sails are to be noted; and this combination of adjustments is to pass by the name of a certain trim. Thus that trim of all the sails may be called 40, whose direction is experimentally found equivalent to a flat surface trimmed to the obliquity 40° .

Having done this, we may construct a figure for each trim similar to fig. 8. where, instead of a circle, we shall have a curve COMF, whose chords CF, cf, &c. are proportional to the velocities in these courses; and by means of this curve we can find the point m', which is most remote from any line CM from which we wish to withdraw: and thus we may solve all the principal problems of the art.

We hope that it will not be accounted presumption in us to expect more improvement from a theory founded on judicious experiments only, than from a theory of the impulse of fluids, which is found so inconsistent with observation, and of whose fallacy all its authors, from Newton to D'Alembert, entertained strong suspicions. Again, we beg leave to recommend this view of the subject to the attention of the SOCIETY FOR THE IMPROVEMENT OF NAVAL ARCHITECTURE. Should these patriotic gentlemen entertain a favourable opinion of the plan, and honour us with their correspondence, we will cheerfully impart to them our notions of the way in which both these trains of experiments may be prosecuted with success, and results obtained in which we may confide; and we content ourselves at present with offering to the public these hints, which are not the speculations of a man of mere science, but of one who, with a competent knowledge of the laws of mechanical nature, has the experience of several years service in the royal navy, where the art of working of ships was a favourite object of his scientific attention.

With these observations we conclude our discussion of the first part of the seaman's task, and now proceed to consider the means that are employed to prevent or to produce any deviations from the uniform rectilinear course which has been selected.

Here the ship is to be considered as a body in free space, convertible round her centre of inertia. For whatever may be the point round which she turns, this motion may always be considered as compounded of a rotation round an axis passing through her centre of gravity or inertia. She is impelled by the wind and by the water acting on many surfaces differently inclined to each other, and the impulse on each is perpendicular to the surface. In order therefore that she may continue steadily in one course, it is not only necessary that the impelling forces, estimated in their mean direction, be equal and opposite to the resisting forces estimated in their mean direction; but also that these two directions may pass through one point, otherwise she will be affected as a log of wood is when pushed in opposite directions by two forces, which are equal indeed, but are applied to different parts of the log. A ship must

40
Experiments proposed for establishing another

41
Recommended to the Society for the improvement of Naval Architecture.

42
Means employed to prevent or produce deviations from a course.

be

be considered as a lever, acted on in different parts by forces in different directions, and the whole balancing each other round that point or axis where the equivalent of all the resisting forces passes. This may be considered as a point supported by this resisting force, and as a sort of fulcrum: therefore, in order that the ship may maintain her position, the energies or *momenta* of all the impelling forces round this point must balance each other.

43
Impulses
on a ship
failing right
before the
wind differ-
rent from
those on
her when
failing ob-
liquely.

When a ship fails right afore the wind, with her yards square, it is evident that the impulses on each side of the keel are equal, as also their mechanical *momenta* round any axis passing perpendicularly through the keel. So are the actions of the water on her bows. But when she fails on an oblique course, with her yards braced up on either side, she sustains a pressure in the direction CI (fig. 5.) perpendicular to the sail. This, by giving her a lateral pressure LI, as well as a pressure CL ahead, causes her to make leeway, and to move in a line Cb inclined to CB. By this means the balance of action on the two bows is destroyed; the general impulse on the lee-bow is increased; and that on the weather-bow is diminished. The combined impulse is therefore no longer in the direction BC, but (in the state of uniform motion) in the direction IC.

Suppose that in an instant the whole sails are annihilated and the impelling pressure CI, which precisely balanced the resisting pressure on the bows, removed. The ship tends, by her inertia, to proceed in the direction Cb. This tendency produces a continuation of the resistance in the opposite direction IC, which is not directly opposed to the tendency of the ship in the direction Cb; therefore the ship's head would immediately come up to the wind. The experienced seaman will recollect something like this when the sails are suddenly lowered when coming to anchor. It does not happen solely from the obliquity of the action on the bows: It would happen to the parallelopiped of fig. 2. which was sustaining a lateral impulsion $B \cdot \sin^2 \alpha$, and a direct impulsion $A \cdot \cos^2 \alpha$. These are continued for a moment after the annihilation of the sail; but being no longer opposed by a force in the direction CD, but by a force in the direction Cb, the force $B \cdot \sin^2 \alpha$ must prevail, and the body is not only retarded in its motion, but its head turns towards the wind. But this effect of the leeway is greatly increased by the curved form of the ship's bows. This occasions the centre of effort of all the impulsions of the water on the lee side of the ship to be very far forward, and this so much the more remarkably as she is sharper afore. It is in general not much abaft the foremast. Now the centre of the ship's tendency to continue her motion is the same with her centre of gravity, and this is generally but a little before the mainmast. She is therefore in the same condition nearly as if she were pushed at the mainmast in a direction parallel to Cb, and at the foremast by a force parallel to IC. The evident consequence of this is a tendency to come up to the wind. This is independent of all situation of the sails, provided only that they have been trimmed obliquely.

44
Gripping.

This tendency of the ship's head to windward is called GRIPPING in the seaman's language, and is greatest in ships which are sharp forward, as we have said already. This circumstance is easily understood. Whatever is the direction of the ship's motion, the absolute

impulse on that part of the bow immediately contiguous to B is perpendicular to that very part of the surface. The more acute, therefore, that the angle of the bow is, the more will the impulse on that part be perpendicular to the keel, and the greater will be its energy to turn the head to windward.

Thus we are enabled to understand or to see the propriety of the disposition of the sails of a ship. We see her crowded with sails forward, and even many sails extended far before her bow, such as the spritsail, the bowsprit topfail, the fore-topmast stayfail, the jib, and flying jib. The sails abaft are comparatively smaller. The sails on the mizenmast are much smaller than those on the foremast. All the stayfails hoisted on the mainmast may be considered as headfails, because their centres of effort are considerably before the centre of gravity of the ship; and notwithstanding this disposition, it generally requires a small action of the rudder to counteract the windward tendency of the lee-bow. This is considered as a good quality when moderate; because it enables the seaman to throw the sails aback, and stop the ship's way in a moment, if she be in danger from any thing ahead; and the ship which does not carry a little of a weather helm, is always a dull sailer.

In order to judge somewhat more accurately of the action of the water and sails, suppose the ship AB (fig. 9.) to have its sails on the mizenmast D, the mainmast E, and foremast F, braced up or trimmed alike, and that the three lines Di, Ee, Ff, perpendicular to the sails, are in the proportion of the impulses on the sails. The ship is driven ahead and to leeward, and moves in the path aCb. This path is so inclined to the line of the keel that the medium direction of the resistance of the water is parallel to the direction of the impulse. A line CI may be drawn parallel to the lines Di, Ee, Ff, and equal to their sum: and it may be drawn from such a point C, that the actions on all the parts of the hull between C and B may balance the *momenta* of all the actions on the hull between C and A. This point may justly be called the *centre of effort*, or the *centre of resistance*. We cannot determine this point for want of a proper theory of the resistance of fluids. Nay, although experiments like those of the Parisian academy should give us the most perfect knowledge of the intensity of the oblique impulses on a square foot, we should hardly be benefited by them: for the action of the water on a square foot of the hull at p, for instance, is so modified by the intervention of the stream of water which has struck the hull about B, and glided along the bow Bop, that the pressure on p is totally different from what it would have been were it a square foot or surface detached from the rest, and presented in the same position to the water moving in the direction bC. For it is found, that the resistances given to planes joined so as to form a wedge, or to curved surfaces, are widely different from the accumulated resistances, calculated for their separate parts, agreeably to the experiments of the academy on single surfaces. We therefore do not attempt to ascertain the point C by theory; but it may be accurately determined by the experiments which we have so strongly recommended; and we offer this as an additional inducement for prosecuting them.

Draw through C a line perpendicular to CI, that is, terminated parallel to the sails; and let the lines of impulse of the

D d 2

three

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To be de-
termined
by experi-
ments.

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Equilibrium preserved by the position of the sails.

three sails cut it in the points i , k , and m . This line im may be considered as a lever, moveable round C , and acted on at the points i , k , and m , by three forces. The rotatory momentum of the sails on the mizenmast is $Di \times iC$; that of the sails on the mainmast is $Ee \times kC$; and the momentum of the sails on the foremast is $Ff \times mC$. The two first tend to press forward the arm Ci , and then to turn the ship's head towards the wind. The action of the sails on the foremast tends to pull the arm Cm forward, and produce a contrary rotation. If the ship under these three sails keeps steadily in her course, without the aid of the rudder, we must have $Di \times iC + Ee \times kC = Ff \times mC$. This is very possible, and is often seen in a ship under her mizen-topfail, main-topfail, and fore-topfail, all parallel to one another, and their surfaces duly proportioned by reefing. If more sails are set, we must always have a similar equilibrium. A certain number of them will have their efforts directed from the larboard arm of the lever im lying to leeward of CI , and a certain number will have their efforts directed from the starboard arm lying to windward of CI . The sum of the products of each of the first set, by their distances from C , must be equal to the sum of the similar products of the other set. As this equilibrium is all that is necessary for preserving the ship's position, and the cessation of it is immediately followed by a conversion; and as these states of the ship may be had by means of the three square sails only, when their surfaces are properly proportioned—it is plain that every movement may be executed and explained by their means. This will greatly simplify our future discussions. We shall therefore suppose in future that there are only the three topfails set, and that their surfaces are so adjusted by reefing, that their actions exactly balance each other round that point C of the middle line AB , where the actions of the water on the different parts of her bottom in like manner balance each other. This point C may be differently situated in the ship according to the leeway she makes, depending on the trim of the sails; and therefore although a certain proportion of the three surfaces may balance each other in one state of leeway, they may happen not to do so in another state. But the equilibrium is evidently attainable in every case, and we therefore shall always suppose it.

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Consequence of destroying it.

It must now be observed, that when this equilibrium is destroyed, as, for example, by turning the edge of the mizen-topfail to the wind, which the seamen call *shivering* the mizen-topfail, and which may be considered as equivalent to the removing the mizen-topfail entirely, it does not follow that the ship will round the point C , this point remaining fixed. The ship must be considered as a free body, still acted on by a number of forces, which no longer balance each other; and she must therefore begin to turn round a spontaneous axis of conversion, which must be determined in the way set forth in the article *ROTATION*. It is of importance to point out in general where this axis is situated. Therefore let G (fig. 10.) be the centre of gravity of the ship. Draw the line qGv parallel to the yards, cutting Dd in q , Ee in r , CI in t , and Ff in v . While the three sails are set, the line qv may be considered as a lever acted on by four forces, *viz.* Dd , impelling the lever forward perpendicularly in the point q ; Ee , impelling it forward in the point r ; Ff , impelling it for-

ward in the point v ; and CI , impelling it backward in the point t . These forces balance each other both in respect of progressive motion and of rotatory energy; for CI was taken equal to the sum of Dd , Ee , and Ff ; so that no acceleration or retardation of the ship's progress in her course is supposed.

But by taking away the mizen-topfail, both the equilibriums are destroyed. A part Dd of the accelerating force is taken away; and yet the ship, by her inertia or inherent force, tends, for a moment, to proceed in the direction Cp with her former velocity; and by this tendency exerts for a moment the same pressure CI on the water, and sustains the same resistance IC . She must therefore be retarded in her motion by the excess of the resistance IC over the remaining impelling forces Ee and Ff , that is, by a force equal and opposite to Dd . She will therefore be retarded in the same manner as if the mizen-topfail were still set, and a force equal and opposite to its action were applied to G the centre of gravity, and she would soon acquire a smaller velocity, which would again bring all things into equilibrium; and she would stand on in the same course, without changing either her leeway or the position of her head.

But the equilibrium of the lever is also destroyed. It is now acted on by three forces only, *viz.* Ee and Ff , impelling it forward in the points r and v , and IC impelling it backward in the point t . Make $rv : ro = Ee + Ff : Ff$, and make op parallel to CI and equal to $Ee + Ff$. Then we know, from the common principles of mechanics, that the force op acting at o will have the same momentum or energy to turn the lever round any point whatever as the two forces Ee and Ff applied at r and v ; and now the lever is acted on by two forces, *viz.* IC , urging it backwards in the point t , and op urging it forwards in the point o . It must therefore turn round like a floating log, which gets two blows in opposite directions. If we now make $IC - op : op = to : tx$, or $IC - op : IC = to : ox$, and apply to the point x a force equal to $IC - op$ in the direction IC ; we know, by the common principles of mechanics, that this force $IC - op$ will produce the same rotation round any point as the two forces IC and op applied in their proper directions at t and o . Let us examine the situation of the point x .

The force $IC - op$ is evidently $= Dd$, and op is $= Ee + Ff$. Therefore $ot : tx = Dd : op$. But because, when all the sails were filled, there was an equilibrium round C , and therefore round t , and because the force op acting at o is equivalent to Ee and Ff acting at r and v , we must still have the equilibrium; and therefore we have the momentum $Dd \times qt = op \times ot$. Therefore $ot : tq = Dd : op$, and $tq = tx$. Therefore the point x is the same with the point q .

Therefore, when we shiver the mizen-topfail, the rotation of the ship is the same as if the ship were at rest, and a force equal and opposite to the action of the mizen-topfail were applied at q or at D , or at any point in the line Dq . 51
By shivering the mizen-topfail.

This might have been shown in another and shorter way. Suppose all sails filled, the ship is in equilibrio. This will be disturbed by applying to D a force opposite to Dd ; and if the force be also equal to Dd , it is evident that these two forces destroy each other, and that this application of the force dD is equivalent to the

the taking away of the mizen-topfail. But we chose to give the whole mechanical investigation; because it gave us an opportunity of pointing out to the reader, in a case of very easy comprehension, the precise manner in which the ship is acted on by the different sails and by the water, and what share each of them has in the motion ultimately produced. We shall not repeat this manner of procedure in other cases, because a little reflection on the part of the reader will now enable him to trace the *modus operandi* through all its steps.

We now see that, in respect both of progressive motion and of conversion, the ship is affected by shivering the sail D , in the same manner as if a force equal and opposite to Dd were applied at D , or at any point in the line Dd . We must now have recourse to the principles established under the article ROTATION.

Let p represent a particle of matter, r its radius vector, or its distance pG from an axis passing through the centre of gravity G , and let M represent the whole quantity of matter of the ship. Then its momentum of inertia is $= \int p \cdot r^2$ (see ROTATION, n° 18.) The ship, impelled in the point D by a force in the direction dD , will begin to turn round a spontaneous vertical axis, passing through a point S of the line qG , which is drawn through the centre of gravity G , perpendicular to the direction dD of the external force, and the distance GS of this axis from the centre of gravity is $= \frac{\int p \cdot r^2}{M \cdot Gq}$ (see ROTATION, n° 96.), and it is

taken on the opposite side of G from q , that is, S and q are on opposite sides of G .

Let us express the external force by the symbol F . It is equivalent to a certain number of pounds, being the pressure of the wind moving with the velocity V and inclination a on the surface of the sail D ; and may therefore be computed either by the theoretical or experimental law of oblique impulses. Having obtained this, we can ascertain the angular velocity of the rotation and the absolute velocity of any given point of the ship by means of the theorems established in the article ROTATION.

52
Action of
the rudder

But before we proceed to this investigation, we shall consider the action of the rudder, which operates precisely in the same manner. Let the ship AB (fig. 11.) have her rudder in the position AD , the helm being hard a-starboard, while the ship sailing on the starboard tack, and making leeway, keeps on the course ab . The lee surface of the rudder meets the water obliquely. The very foot of the rudder meets it in the direction DE parallel to ab . The parts farther up meet it with various obliquities, and with various velocities, as it glides round the bottom of the ship and falls into the wake. It is absolutely impossible to calculate the accumulated impulse. We shall not be far mistaken in the deflection of each contiguous filament, as it quits the bottom and glides along the rudder; but we neither know the velocity of these filaments, nor the deflection and velocity of the filaments gliding without them. We therefore imagine that all computations on this subject are in vain. But it is enough for our purpose that we know the direction of the absolute pressure which they exert on its surface. It is in the direction Dd , perpendicular to that surface. We also may be confident that this pressure is very consider-

able, in proportion to the action of the water on the ship's bows, or of the wind on the sails; and we may suppose it to be nearly in the proportion of the square of the velocity of the ship in her course; but we cannot affirm it to be accurately in that proportion, for reasons that will readily occur to one who considers the way in which the water falls in behind the ship.

It is observed, however, that a fine sailer always ⁵³Greatest in steers well, and that all movements by means of the a fine sailer. rudder are performed with great rapidity when the velocity of the ship is great. We shall see by and by, that the speed with which the ship performs the angular movements is in the proportion of her progressive velocity: For we shall see that the squares of the times of performing the evolution are as the impulses inversely, which are as the squares of the velocities. There is perhaps no force which acts on a ship that can be more accurately determined by experiment than this. Let the ship ride in a stream or tideway whose velocity is accurately measured; and let her ride from two moorings, so that her bow may be a fixed point. Let a small tow-line be laid out from her stern or quarter at right angles to the keel, and connected with some apparatus fitted up on shore or on board another ship, by which the strain on it may be accurately measured; a person conversant with mechanics will see many ways in which this can be done. Perhaps the following may ⁵⁴How to determine it. be as good as any: Let the end of the tow-line be fixed to some point as high out of the water as the point of the ship from which it is given out, and let this be very high. Let a block with a hook be on the rope, and a considerable weight hung on this hook. Things being thus prepared, put down the helm to a certain angle, so as to cause the ship to sheer off from the point to which the far end of the tow-line is attached. This will stretch the rope, and raise the weight out of the water. Now heave upon the rope, to bring the ship back again to her former position, with her keel in the direction of the stream. When this position is attained, note carefully the form of the rope, that is, the angle which its two parts make with the horizon. Call this angle a . Every person acquainted with these subjects knows that the horizontal strain is equal to half the weight multiplied by the cotangent of a , or that 2 is to the cotangent of a as the weight to the horizontal strain. Now it is this strain which balances and therefore measures the action of the rudder, or Dd in fig. 11. Therefore, to have the absolute impulse Dd , we must increase Dd in the proportion of radius to the secant of the angle b which the rudder makes with the keel. In a great ship sailing six miles in an hour, the impulse on the rudder inclined 30° to the keel is not less than 3000 pounds. The surface of the rudder of such a ship contains near 80 square feet. It is not, however, very necessary to know this absolute impulse Dd , because it is its part Dd alone which measures the energy of the rudder in producing a conversion. Such experiments, made with various positions of the rudder, will give its energies corresponding to these positions, and will settle that long disputed point which is the best position for turning a ship. On the hypothesis that the impulses of fluids are in the duplicate ratio of the sines of incidence, there can be no doubt that it should make an angle of $54^\circ 44'$ with the keel. But the form of a large ship will not admit of this, because a tiller of a length sufficient for managing the rudder in sailing with

with great velocity has not room to deviate above 30° from the direction of the keel; and in this position of the rudder the mean obliquity of the filaments of water to its surface cannot exceed 40° or 45° . A greater angle would not be of much service, for it is never for want of a proper obliquity that the rudder fails of producing a conversion.

55
Why a ship
misses stays,
&c.

A ship misses stays in rough weather for want of a sufficient progressive velocity, and because her bows are beat off by the waves: and there is seldom any difficulty in wearing the ship, if she has any progressive motion. It is, however, always desirable to give the rudder as much influence as possible. Its surface should be enlarged (especially below) as much as can be done consistently with its strength and with the power of the steersmen to manage it; and it should be put in the most favourable situation for the water to get at it with great velocity; and it should be placed as far from the axis of the ship's motion as possible. These points are obtained by making the stern-post very upright, as has always been done in the French dockyards. The British ships have a much greater rake; but our builders are gradually adopting the French forms, experience having taught us that their ships, when in our possession, are much more obedient to the helm than our own.— In order to ascertain the motion produced by the action of the rudder, draw from the centre of gravity a line Gq perpendicular to Dd (Dd being drawn thro' the centre of effort of the rudder). Then, as in the consideration of the action of the sails, we may conceive the line qG as a lever connected with the ship, and impelled by a force Dd acting perpendicularly at q . The consequence of this will be, an incipient conversion of the ship about a vertical axis passing through some point S in the line qG , lying on the other side of G from q ; and we have, as in the former case, $GS =$

$$\frac{\int p \cdot r^2}{M \cdot Gq}.$$

56
The action
of the rudder
is similar
to that of
the sails,
and very
great.

Thus the action and effects of the sails and of the rudder are perfectly similar, and are to be considered in the same manner. We see that the action of the rudder, though of a small surface in comparison of the sails, must be very great: For the impulse of water is many hundred times greater than that of the wind; and the arm qG of the lever, by which it acts, is incomparably greater than that by which any of the impulsions on the sails produces its effect; accordingly the ship yields much more rapidly to its action than she does to the lateral impulse of a sail.

Observe here, that if G were a fixed or supported axis, it would be the same thing whether the absolute force Dd of the rudder acts in the direction Dd , or its transverse part De acts in the direction De , both would produce the same rotation; but it is not so in a free body. The force Dd both tends to retard the ship's motion and to produce a rotation: It retards it as much as if the same force Dd had been immediately applied to the centre. And thus the real motion of the ship is compounded of a motion of the centre in a direction parallel to Dd , and of a motion round the centre. These two constitute the motion round S .

57
Employed
as an exam-
ple of the
motions of
conversion.

As the effects of the action of the rudder are both more remarkable and somewhat more simple than those of the sails, we shall employ them as an example of the mechanism of the motions of conversion in general; and as we must content ourselves in a work like this with

what is very general, we shall simplify the investigation by attending only to the motion of conversion. We can get an accurate notion of the whole motion, if wanted for any purpose, by combining the progressive or retrograde motion parallel to Dd with the motion of rotation which we are about to determine.

In this case, then, we observe, in the first place, that the

angular velocity (see ROTATION, n^o 22.) is $\frac{Dh \cdot qG}{\int p r^2}$

and, as was shown in that article, this velocity of rotation increases in the proportion of the time of the forces uniform action, and the rotation would be uniformly accelerated if the forces did really act uniformly. This, however, cannot be the case, because, by the ship's change of position and change of progressive velocity, the direction and intensity of the impelling force is continually changing. But if two ships are performing similar evolutions, it is obvious that the changes of force are similar in similar parts of the evolution. Therefore the consideration of the momentary evolution is sufficient for enabling us to compare the motions of ships actuated by similar forces, which is all we have in view at present.

The velocity v , generated in any time t by the continuance of an invariable momentary acceleration (which is all that we mean by saying that it is produced by the action of a constant accelerating force), is as the acceleration and the time jointly. Now what we call the angular velocity is nothing but this momentary acceleration. Therefore the velocity v generated in the time

$$t \text{ is } = \frac{F \cdot qG}{\int p r^2} t.$$

The expression of the angular velocity is also the expression of the velocity v of a point situated at the distance r from the axis G . 58

Let z be the space or arch of revolution described in the time t by this point, whose distance from G is

$$= r. \text{ Then } z = v t = \frac{F \cdot qG}{\int p r^2} t^2, \text{ and taking the}$$

fluent $z = \frac{F \cdot qG}{\int p r^2} t^2$. This arch measures the whole angle of rotation accomplished in the time t . These are therefore as the squares of the times from the beginning of the rotation.

Those evolutions are equal which are measured by equal arches. Thus two motions of 45° each are equal. Therefore because z is the same in both,

the quantity $\frac{F \cdot qG}{\int p r^2} t^2$ is a constant quantity, and t^2 is

reciprocally proportional to $\frac{F \cdot qG}{\int p r^2}$, or is proportional

to $\frac{\int p r^2}{F \cdot qG}$, and t is proportional to $\frac{\sqrt{\int p r^2}}{\sqrt{F \cdot qG}}$. That

is to say, the times of the similar evolutions of two ships are as the square root of the momentum of inertia directly, and as the square root of the momentum of the rudder or sail inversely. This will enable us to make the comparison easily. Let us suppose the ships perfectly similar in form and rigging, and to differ only in length L and l ; $\int P \cdot R^2$ is to $\int p r^2$ as L^5 to l^5 .

For

For the similar particles P and p contain quantities of matter which are as the cubes of their lineal dimensions, that is, as L^3 to l^3 . And because the particles are similarly situated, R^2 is to r^2 as L^2 to l^2 . Therefore $P \cdot R^2 : p \cdot r^2 = L^5 : l^5$. Now F is to f as L^2 to l^2 . For the surfaces of the similar rudders or sails are as the squares of their lineal dimensions, that is, as L^2 to l^2 . And, lastly, Gq is to gq as L to l , and therefore $F \cdot Gq : f \cdot gq = L^3 : l^3$. Therefore we have $T^2 :$

$$t^2 = \frac{P \cdot R^2}{F \cdot Gq} : \frac{p \cdot r^2}{f \cdot gq} = \frac{L^5}{L^3} : \frac{l^5}{l^3} = L^2 : l^2, \text{ and } T : t = L : l.$$

59
Times of similar evolutions with similar ships.

Therefore the times of performing similar evolutions with similar ships are proportional to the lengths of the ships when both are sailing equally fast; and since the evolutions are similar, and the forces vary similarly in their different parts, what is here demonstrated of the smallest incipient evolutions is true of the whole. They therefore not only describe equal angles of revolution, but also similar curves.

A small ship, therefore, works in less time and in less room than a great ship, and this in the proportion of its length. This is a great advantage in all cases, particularly in wearing, in order to sail on the other tack close-hauled. In this case she will always be to windward and ahead of the large ship, when both are got on the other tack. It would appear at first sight that the large ship will have the advantage in tacking. Indeed the large ship is farther to windward when again trimmed on the other tack than the small ship when she is just trimmed on the other tack. But this happened before the large ship had completed her evolution, and the small ship, in the mean time, has been going forward on the other tack, and going to windward. She will therefore be before the large ship's beam, and perhaps as far to windward.

We have seen that the velocity of rotation is proportional, *ceteris paribus*, to $F \times Gq$. F means the absolute impulse on the rudder or sail, and is always perpendicular to its surface. This absolute impulse on a sail depends on the obliquity of the wind to its surface. The usual theory says, that it is as the square of the sine of incidence: but we find this not true. We must content ourselves with expressing it by some as yet unknown function ϕ of the angle of incidence a , and call it ϕa ; and if S be the surface of the sail, and V the velocity of the wind, the absolute impulse is $n V^2 S \times \phi a$. This acts (in the case of the mizen-top-sail, fig. 10.) by the lever qG , which is equal to $DG \times \cos. DGq$, and DGq is equal to the angle of the yard and keel; which angle we formerly called b . Therefore its energy in producing a rotation is $n V^2 S \times \phi a \times DG \times \cos. b$. Leaving out the constant quantities n, V^2, S , and DG , its energy is proportional to $\phi a \times \cos. b$. In order, therefore, that any sail may have the greatest power to produce a rotation round G, it must be so trimmed that $\phi a \times \cos. b$ may be a maximum. Thus, if we would trim the sails on the foremast, so as to pay the ship off from the wind right ahead with the greatest effect, and if we take the experiments of the French academicians as proper measures of the oblique impulses of the wind on the sail, we will brace up the yard to an angle of 48 degrees with the keel. The impulse corresponding to 48° is 615, and the cosine of 48° is 669. These give a product of 411435. If we brace the sail

to 54.44, the angle assigned by the theory, the effective impulse is 405274. If we make the angle 45°, the impulse is 408774. It appears then that 48° is preferable to either of the others. But the difference is inconsiderable, as in all cases of maximum a small deviation from the best position is not very detrimental. But the difference between the theory and this experimental measure will be very great when the impulses of the wind are of necessity very oblique. Thus, in tacking ship, as soon as the headsails are taken aback, they serve to aid the evolution, as is evident: But if we were now to adopt the maxim inculcated by the theory, we should immediately round in the weather-braces, so as to increase the impulse on the sail, because it is then very small; and although we by this means make yard more square, and therefore diminish the rotatory momentum of this impulse, yet the impulse is more increased (by the theory) than its vertical lever is diminished. — Let us examine this a little more particularly, because it is reckoned one of the nicest points of seamanship to aid the ship's coming round by means of the headsails; and experienced seamen differ in their practice in this manœuvre. Suppose the yard braced up to 40°, which is as much as can be usually done, and that the sail shivers (the bowlines are usually let go when the helm is put down), the sail immediately takes aback, and in a moment we may suppose an incidence of 6 degrees. The impulse corresponding to this is 400 (by experiment), and the cosine of 40° is 766. This gives 306400 for the effective impulse. To proceed according to the theory, we should brace the yard to 70°, which would give the wind (now 34° on the weather-bow) an incidence of nearly 36°, and the sail an inclination of 20° to the intended motion, which is perpendicular to the keel. For the tangent of 20° is about $\frac{1}{2}$ of the tangent of 36°. Let us now see what effective impulse the experimental law of oblique impulses will give for this adjustment of the sails. The experimental impulse for 36° is 480; the cosine of 70° is 342; the product is 164160, not much exceeding the half of the former. Nay, the impulse for 36°, calculated by the theory, would have been only 346, and the effective impulse only 118332. And it must be farther observed, that this theoretical adjustment would tend greatly to check the evolution, and in most cases would entirely mar it, by checking the ship's motion ahead, and consequently the action of the rudder, which is the most powerful agent in the evolution; for here would be a great impulse directed almost astern.

60
A nice point of seamanship.

We were justifiable, therefore, in saying, in the beginning of this article, that a seaman would frequently find himself baffled if he were to work a ship according to the rules deduced from M. Bouguer's work; and we see by this instance of what importance it is to have the oblique impulses of fluids ascertained experimentally. The practice of the most experienced seaman is directly the opposite to this theoretical maxim, and its success greatly confirms the usefulness of these experiments of the academicians so often praised by us.

We return again to the general consideration of the rotatory motion. We found the velocity $v = \frac{F \cdot qG}{\int p r^2}$.

It is therefore proportional, *ceteris paribus*, to qG . We have seen in what manner qG depends on the position

tion and situation of the sail or rudder when the point G is fixed. But it also depends on the position of G . With respect to the action of the rudder, it is evident that it is so much the more powerful as it is more remote from G . The distance from G may be increased either by moving the rudder farther aft or G farther forward. And as it is of the utmost importance that a ship answer her helm with the greatest promptitude, those circumstances have been attended to which distinguished fine steering ships from such as had not this quality; and it is in a great measure to be ascribed to this, that, in the gradual improvement of naval architecture, the centre of gravity has been placed far forward. Perhaps the notion of a centre of gravity did not come into the thoughts of the rude builders in early times; but they observed that those boats and ships steered best which had their extreme breadth before the middle point, and consequently the bows not so acute as the stern. This is so contrary to what one would expect, that it attracted attention more forcibly; and, being somewhat mysterious, it might prompt to attempts of improvement, by exceeding in this singular maxim. We believe that it has been carried as far as is compatible with other essential requisites in a ship.

61
Of importance to determine the best place for a ship's centre of gravity.

We believe that this is the chief circumstance in what is called the trim of a ship; and it were greatly to be wished that the best place for the centre of gravity could be accurately ascertained. A practice prevails, which is the opposite of what we are now advancing. It is usual to load a ship so that her keel is not horizontal, but lower abaft. This is found to improve her steerage. The reason of this is obvious. It increases the acting surface of the rudder, and allows the water to come at it with much greater freedom and regularity; and it generally diminishes the griping of the ship forward, by removing a part of the bows out of the water. It has not always this effect; for the form of the harping aloft is frequently such, that the tendency to gripe is diminished by immersing more of the bow in the water.

But waving these circumstances, and attending only to the rotatory energy of the rudder, we see that it is of advantage to carry the centre of gravity forward. The same advantage is gained to the action of the after sails. But, on the other hand, the action of the head sails is diminished by it; and we may call every sail a head sail whose centre of gravity is before the centre of gravity of the ship; that is, all the sails hoisted on the bowsprit and foremast, and the staysails hoisted on the mainmast; for the centre of gravity is seldom far before the mainmast.

Suppose that when the rudder is put into the position AD (fig. 11.), the centre of gravity could be shifted to g , so as to increase qG , and that this is done without increasing the sum of the products pr^2 . It is obvious that the velocity of conversion will be increased in the proportion of qG to qg . This is very possible, by bringing to that side of the ship parts of her loading which were situated at a distance from G on the other side. Nay, we can make this change in such a manner that $\int pr^2$ shall even be less than it was before, by taking care that every thing which we shift shall be nearer to g than it was formerly to G . Suppose it all placed in one spot m , and that m is the quantity of matter so shifted, while M is the quantity of matter in the whole ship.

It is only necessary that $m \cdot gG^2$ shall be less than the sum of the products pr^2 , corresponding to the matter which has been shifted. Now, although the matter which is easily moveable is generally very small in comparison to the whole matter of the ship, and therefore can make but a small change in the place of the centre of gravity, it may frequently be brought from places so remote, that it may occasion a very sensible diminution of the quantity $\int pr^2$, which expresses the whole momentum of inertia.

This explains a practice of the seamen in small wharries or skiffs, who in putting about are accustomed to place themselves to leeward of the mast. They even find that they can aid the quick motions of these light boats by the way in which they rest on their two feet, sometimes leaning all on one foot, and sometimes on the other. And we have often seen this evolution very sensibly accelerated in a ship of war, by the crew running suddenly, as the helm is put down, to the lee-bow. And we have heard it asserted by very expert seamen, that after all attempts to wear ship (after lying-to in a storm) have failed, they have succeeded by the crew collecting themselves near the weather fore-shrouds the moment the helm was put down. It must be agreeable to the reflecting seaman to see this practice supported by undoubted mechanical principles.

It will appear paradoxical to say that the evolution may be accelerated even by an addition of matter to the ship; and though it is only a piece of curiosity, our readers may wish to be made sensible of it. Let m be the addition, placed in some point m lying beyond G from q . Let S be the spontaneous centre of conversion before the addition. Let v be the velocity of rotation round g , that is, the velocity of a point whose distance from g is 1, and let ρ be the radius vector, or distance of a particle from g . We have (ROTATION, n° 22.) $v = \frac{F \cdot qg}{\int pr^2 + m \cdot mg^2}$. But we know (ROTATION, n° 23.)

that $\int pr^2 = \int p r^2 + M \cdot Gg^2$. Therefore $v = \frac{F \cdot qg}{\int p r^2 + M \cdot Gg^2 + m \cdot mg^2}$. Let us determine Gg and mg and qg .

Let mG be called z . Then, by the nature of the centre of gravity, $M+m : M = Gm : gm = z : gm$, and $gm = \frac{M}{M+m} z$, and $m \cdot gm^2 = \frac{M M^2}{(M+m)^2} z^2$. In

like manner, $M \cdot Gg^2 = \frac{M m^2}{(M+m)^2} z^2$. Now $m M^2 +$

$M m^2 = M m \times M + m$. Therefore $M \cdot Gg^2 + m \cdot gm^2 = \frac{M m \times (M+m)}{(M+m)^2} z^2 = \frac{M m}{M+m} z^2$. Let n be =

$\frac{m}{M+m}$, then $M \cdot Gg^2 + m \cdot gm^2 = M n z^2$. Also $Gg = n z$, being = $\frac{m}{M+m} z$. Let qG be called c : then

$qg = c + n z$. Also let SG be called e .

We have now for the expression of the velocity $v = \frac{F(c+nz)}{\int pr^2 + M n z^2}$, or $v = \frac{F}{M} \times \frac{c+nz}{\int pr^2 + M n z^2}$. But

ROTATION,

(ROTATION, n° 30.) $\frac{\int p r^2}{M} = ce$. Therefore, finally, $v =$

$\frac{F}{M} \times \frac{c+nz}{ce+nz^2}$. Had there been no addition of matter

made, we should have had $v = \frac{F}{M} \times \frac{c}{ce}$. It remains to

show, that z may be so taken that $\frac{c}{ce}$ may be less than

$\frac{c+nz}{ce+nz^2}$. Now, if c be to z as ce to z^2 , that is, if z

be taken equal to e , the two fractions will be equal. But if z be less than e , that is, if the additional matter

is placed anywhere between S and G , the complex frac-

tion will be greater than the fraction $\frac{c}{ce}$, and the velo-

city of rotation will be increased. There is a particular

distance which will make it the greatest possible, name-

ly, when z is made $= \frac{1}{n} (\sqrt{c^2 + nce} - c)$, as will

easily be found by treating the fraction $\frac{c+nz}{ce+nz^2}$, with

z , considered as the variable quantity, for a maximum.

In what we have been saying on this subject, we have

considered the rotation only in as much as it is per-

formed round the centre of gravity, although in every

moment it is really performed round a spontaneous axis

lying beyond that centre. This was done because it af-

forded an easy investigation, and any angular motion

round the centre of gravity is equal to the angular

motion round any other point. Therefore the extent

and the time of the evolution are accurately defined.—

From observing that the energy of the force F is pro-

portional to qG , an inattentive reader will be apt to

conceive the centre of gravity as the centre of motion,

and the rotation as taking place because the momenta of

the sails and rudder, on the opposite sides of the centre

of gravity, do not balance each other. But we must

always keep in mind that this is not the cause of the ro-

tation. The cause is the want of equilibrium round

the point C (fig. 10.), where the actions of the water

balance each other. During the evolution, which con-

sists of a rotation combined with a progressive motion,

this point C is continually shifting, and the unbalanced

momenta which continue the rotation always respect the

momentary situation of the point C . It is nevertheless

always true that the energy of a force F is proportional

(*ceteris paribus*) to qG , and the rotation is always

made in the same direction as if the point G were real-

ly the centre of conversion. Therefore the mainsail acts

always (when oblique) by pushing the stern away from

the wind, although it should sometimes act on a point

of the vertical lever through C , which is a-head of C .

These observations on the effects of the sails and

rudder in producing a conversion, are sufficient for ena-

bling us to explain any case of their action which may

occur. We have not considered the effects which they

tend to produce by inclining the ship round a horizon-

tal axis, viz. the motions of rolling and pitching. See

ROLLING and PITCHING. To treat this subject pro-

perly would lead us into the whole doctrine of the equi-

librium of floating bodies, and it would rather lead to

maxims of construction than to maxims of manœuvre.

M. Bouguer's *Traité du Navire* and Euler's *Scientia*

Navalis are excellent performances on this subject,

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and we are not here obliged to have recourse to any er-

roneous theory.

It is easy to see that the lateral pressure both of the

wind on the sails and of the water on the rudder tends

to incline the ship to one side. The sails also tend to

press the ship's bows into the water, and, if she were

kept from advancing, would press them down consider-

ably. But by the ship's motion, and the prominent

form of her bows, the resistance of the water to the

fore part of the ship produces a force which is directed

upwards. The sails also have a small tendency to raise

the ship, for they constitute a surface which in general

separates from the plumb-line below. This is remark-

ably the case in the stay-sails, particularly the jib and

fore-topmast stay-sail. And this helps greatly to soften

the plunges of the ship's bows into the head seas. The

upward pressure also of the water on her bows, which

we just now mentioned, has a great effect in opposing

the immersion of the bows which the sails produce by

acting on the long levers furnished by the masts. M.

Bouguer gives the name of *point velique* to the point V

(fig. 12.) of the mast, where it is cut by the line CV ,

which marks the mean place and direction of the whole

impulse of the water on the bows. And he observes, that

if the mean direction of all the actions of the wind

on the sails be made to pass also through this point,

there will be a perfect equilibrium, and the ship will

have no tendency to plunge into the water or to rise

out of it; for the whole action of the water on the

bows, in the direction CV , is equivalent to, and may

be resolved into the action CE , by which the progres-

sive motion is resisted, and the vertical action CD , by

which the ship is raised above the water. The force

CE must be opposed by an equal force VD , exerted by

the wind on the sails, and the force CD is opposed by

the weight of the ship. If the mean effort of the sails

passes above the point V , the ship's bows will be pressed

into the water; and if it pass below V , her stern will

be pressed down. But, by the union of these forces,

she will rise and fall with the sea, keeping always in a

parallel position. We apprehend that it is of very little

moment to attend to the situation of this point. Ex-

cept when the ship is right afore the wind, it is a thou-

sand chances to one that the line CV of mean resistance

does not pass through any mast; and the fact is, that

the ship cannot be in a state of uniform motion on any

other condition but the perfect union of the line of

mean action of the sails, and the line of mean action of

the resistance. But its place shifts by every change of

leeway or of trim; and it is impossible to keep these

lines in one constant point of intersection for a moment,

on account of the incessant changes of the surface of the

water on which she floats. M. Bouguer's observations

on this point are, however, very ingenious and original.

We conclude this dissertation, by describing some of

the chief movements or evolutions. What we have

said hitherto is intended for the instruction of the artist,

by making him sensible of the mechanical procedure.

The description is rather meant for the amusement of

the landsman, enabling him to understand operations

that are familiar to the seaman. The latter will per-

haps smile at the awkward account given of his business

by one who cannot hand, reef, nor steer.

To tack Ship.

THE ship must first of all be kept full, that is, with

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ous axis.

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Chief evo-
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a very sensible angle of incidence on the sails, and by no means hugging the wind. For as this evolution is chiefly performed by the rudder, it is necessary to give the ship a good velocity. When the ship is observed to luff up of herself, that moment is to be caught for beginning the evolution, because she will by her inherent force continue this motion. The helm is then put down. When the officer calls out Helm's a-lee, the fore-sheet, fore-top bowline, jib, and flag sail sheets forward are let go. The jib is frequently hauled down. Thus the obstacles to the ship's head coming up to the wind by the action of the rudder are removed. If the main-sail is set, it is not unusual to clue up the weather side, which may be considered as a head-sail, because it is before the centre of gravity. The mizen must be hauled out, and even the sail braced to windward. Its power in paying off the stern from the wind conspires with the action of the rudder. It is really an aerial rudder. The sails are immediately taken aback. In this state the effect of the mizen-top-sail would be to obstruct the movement, by pressing the stern the contrary way to what it did before. It is therefore either immediately braced about sharp on the other tack, or lowered. Bracing it about evidently tends to pay round the stern from the wind, and thus assist in bringing the head up to the wind. But in this position it checks the progressive motion of the ship, on which the evolution chiefly depends. For a rapid evolution, therefore, it is as well to lower the mizen-top-sail. Meantime, the head-sails are all aback, and the action of the wind on them tends greatly to pay the ship round. To increase this effect, it is not unusual to haul the fore-top bowline again. The sails on the main-mast are now almost becalmed; and therefore when the wind is right ahead, or a little before, the main-sail is hauled round and braced up sharp on the other tack with all expedition. The stay-sail sheets are now shifted over to their places for the other tack. The ship is now entirely under the power of the head-sails and of the rudder, and their actions conspire to promote the conversion. The ship has acquired an angular motion, and will preserve it, so that now the evolution is secured, and she falls off apace from the wind on the other tack. The farther action of the rudder is therefore unnecessary, and would even be prejudicial, by causing the ship to fall off too much from the wind before the sails can be shifted and trimmed for sailing on the other tack. It is therefore proper to right the helm when the wind is right ahead, that is, to bring the rudder into the direction of the keel. The ship continues her conversion by her inherent force and the action of the head-sails.

When the ship has fallen off about four points from the wind, the head-sails are hauled round, and trimmed sharp on the other tack with all expedition; and although this operation was begun with the wind four points on the bow, it will be six before the sails are braced up, and therefore the head-sails will immediately fill. The after-sails have filled already, while the head-sails were inactive, and therefore immediately check the farther falling off from the wind. All sails now draw, for the stay-sail sheets have been shifted over while they were becalmed or shaking in the wind. The ship now gathers way, and will obey the smallest motion of the helm to bring her close to the wind.

We have here supposed, that during all this operation the ship preserves her progressive motion. She

must therefore have described a curve line, advancing all the while to windward. Fig. 13. is a representation of this evolution when it is performed in the completest manner. The ship standing on the course Ea , with the wind blowing in the direction WF , has her helm put hard a-lee when she is in the position A . She immediately deviates from her course, and describing a curve, comes to the position B , with the wind blowing in the direction WF of the yards, and the square-sails now shiver. The mizen-top-sail is here represented braced sharp on the other tack, by which its tendency to aid the angular motion (while it checks the progressive motion) is distinctly seen. The main and fore-sails are now shivering, and immediately after are taken aback. The effect of this on the head-sails is distinctly seen to be favourable to the conversion, by pushing the point F in the direction Fi ; but for the same reason it continues to retard the progressive motion. When the ship has attained to the position C , the main-sail is hauled round and trimmed for the other tack. The impulse in the direction Fi still aids the conversion and retards the progressive motion. When the ship has attained a position between C and D , such that the main and mizen top-sail yards are in the direction of the wind, there is nothing to counteract the force of the head-sails to pay the ship's head off from the wind. Nay, during the progress of the ship to this intermediate position, if any wind gets at the main or mizen top-sails, it acts on their anterior surfaces, and impels the after parts of the ship away from the curve $abcd$, and thus aids the revolution. We have therefore said, that when once the sails are taken fully aback, and particularly when the wind is brought right ahead, it is scarce possible for the evolution to fail; as soon therefore as the main-top-sail (trimmed for the other tack) shivers, we are certain that the head-sails will be filled by the time they are hauled round and trimmed. The stay-sails are filled before this, because their sheets have been shifted, and they stand much sharper than the square-sails; and thus every thing tends to check the falling off from the wind on the other tack, and this no sooner than it should be done. The ship immediately gathers way, and holds on in her new course dG .

But it frequently happens, that in this conversion the ship loses her whole progressive motion. This sometimes happens while the sails are shivering before they are taken fully aback. It is evident, that in this case there is little hopes of success, for the ship now lies like a log, and neither sails nor rudder have any action. The ship drives to leeward like a log, and the water acting on the lee-side of the rudder checks a little the driving of the stern. The head therefore falls off again, and by and by the sails fill, and the ship continues on her former tack. This is called MISSING STAYS, and it is generally owing to the ship's having too little velocity at the beginning of the evolution. Hence the propriety of keeping the sails well filled for some little time before. Rough weather, too, by raising a wave which beats violently on the weather-bow, frequently checks the first luffing of the ship, and beats her off again.

If the ship loses all her motion after the head-sails have been fully taken aback, and before we have brought the wind right ahead, the evolution becomes uncertain, but by no means desperate; for the action of

of the wind on the headsails will presently give her stern-way. Suppose this to happen when the ship is in the position C. Bring the helm over hard to windward, so that the rudder shall have the position represented by the small dotted line *of*. It is evident, that the resistance of the water to the stern-way of the rudder acts in a favourable direction, pushing the stern outwards. In the mean time, the action of the wind on the headsails pushes the head in the opposite direction. These actions conspire therefore in promoting the evolution; and if the wind is right ahead, it cannot fail, but may even be completed speedily, because the ship gathers stern-way, and the action of the rudder becomes very powerful; and as soon as the wind comes on the formerly lee-bow, the action of the water on the now lee-quarter will greatly accelerate the conversion. When the wind therefore has once been brought nearly right ahead, there is no risk of being baffled.

But should the ship have lost all her head-way considerably before this, the evolution is very uncertain; for the action of the water on the rudder may not be nearly equal to its contrary action on the lee-quarter; in which case, the action of the wind on the headsails may not be sufficient to make up the difference. When this is observed, when the ship goes astern without changing her position, we must immediately throw the headsails completely aback, and put the helm down again, which will pay off the ship's head from the wind enough to enable us to fill the sails again on the same tack, to try our fortune again; or we must *BOXHAUL* the ship, in the manner to be described by and by.

Such is the ordinary process of tacking ship; a process in which all the different modes of action of the rudder and sails are employed. To execute this evolution in the most expeditious manner, and so as to gain as much on the wind as possible, is considered as the test of an expert seaman. We have described the process which is best calculated for *ensuring* the movement. But if the ship be sailing very briskly in smooth water, so that there is no danger of missing stays, we may gain more to windward considerably by keeping fast the fore-top bowline and the jib and stay-sail sheets till the square-sails are all shivering: For these sails, continuing to draw with considerable force, and balancing each other tolerably fore and aft, keep up the ship's velocity very much, and thus maintain the power of the rudder. If we now let all fly when the square-sails are shivering, the ship may be considered as without sails, but exposed to the action of the water on the lee-bow; from which arises a strong pressure of the bow to windward, which conspires with the action of the rudder to aid the conversion. It evidently leaves all that tendency of the bow to windward which arises from leeway, and even what was counteracted by the formerly unbalanced action of these head-staysails. This method lengthens the whole time of the evolution, but it advances the ship to windward. Observe, too, that keeping fast the fore-top bowline till the sail shivers, and then letting it go, insures the taking aback of that sail, and thus instantly produces an action that is favourable to the evolution.

The most expert seamen, however, differ among themselves with respect to these two methods, and the first is the most generally practised in the British navy, because the least liable to fail. The forces which op-

pose the conversion are sooner removed, and the production of a favourable action by the backing of the fore-top-sail is also sooner obtained, by letting go the fore-top bowline at the first.

Having entered so minutely into the description and rationale of this evolution, we have sufficiently turned the reader's attention to the different actions which co-operate in producing the motions of conversion. We shall therefore be very brief in our description of the other evolutions.

To wear Ship.

WHEN the seaman sees that his ship will not go a bout head to wind, but will miss stays, he must change his tack the other way; that is, by turning her head away from the wind, going a little way before the wind, and then hauling the wind on the other tack. This is called *WEARING* or *VEERING* ship. It is most necessary in stormy weather with little sail, or in very faint breezes, or in a disabled ship.

The process is exceedingly simple; and the mere narration of the procedure is sufficient for showing the propriety of every part of it.

Watch for the moment of the ship's falling off, and then haul up the main-sail and mizen, and shiver the mizen-top-sail, and put the helm a-weather. When the ship falls off sensibly (and not before), let go the bowlines. Ease away the fore-sheet, raise the fore-tack, and gather aft the weather fore-sheet, as the lee-sheet is eased away. Round in the weather-braces of the fore and main masts, and keep the yards nearly bisecting the angle of the wind and keel, so that when the ship is before the wind the yards may be square. It may even be of advantage to round in the weather-braces of the main-top-sail more than those of the headsails; for the main-mast is abaft the centre of gravity. All this while the mizen-top-sail must be kept shivering, by rounding in the weather-braces as the ship pays off from the wind. Then the main-top-sail will be braced up for the other tack by the time that we have brought the wind on the weather-quarter. After this it will be full, and will aid the evolution. When the wind is right aft, shift the jib and stay-sail sheets. The evolution now goes on with great rapidity; therefore briskly haul on board the fore and main tacks, and haul out the mizen, and set the mizen-stay-sail as soon as they will take the wind the right way. We must now check the great rapidity with which the ship comes to the wind on the other tack, by righting the helm before we bring the wind on the beam; and all must be trimmed sharp fore and aft by this time, that the headsails may take and check the coming-to. All being trimmed, stand on close by the wind.

We cannot help losing a great deal of ground in this movement. Therefore, though it be very simple, it requires much attention and rapid execution to do it with as little loss of ground as possible. One is apt to imagine at first that it would be better to keep the headsails braced up on the former tack, or at least not to round in the weather-braces so much as is here directed. When the ship is right afore the wind, we should expect assistance from the obliquity of the headsails; but the rudder being the principal agent in the evolution, it is found that more is gained by increasing the ship's velocity, than by a smaller impulse on the

headsails more favourably directed. Experienced seamen differ, however, in their practice in respect of this particular.

To boxhaul a Ship.

THIS is a process performed only in critical situations, as when a rock, a ship, or some danger, is suddenly seen right ahead, or when a ship misses stays. It requires the most rapid execution.

The ship being close-hauled on a wind, haul up the mainsail and mizen, and shiver the topsails, and put the helm hard a-lee altogether. Raise the fore-tack, let go the head bowlines, and brace about the headsails sharp on the other tack. The ship will quickly lose her way, get stern-way, and then fall off, by the joint action of the headsails and of the inverted rudder. When she has fallen off eight points, brace the after-sails square, which have hitherto been kept shivering. This will at first increase the power of the rudder, by increasing the stern-way, and at the same time it makes no opposition to the conversion which is going on. The continuation of her circular motion will presently cause them to take the wind on their after surfaces. This will check the stern-way, stop it, and give the ship a little head-way. Now shift the helm, so that the rudder may again act in conjunction with the headsails in paying her off from the wind. This is the critical part of the evolution, because the ship has little or no way through the water, and will frequently remain long in this position. But as there are no counteracting forces, the ship continues to fall off. Then the weather-braces of the after-sails may be gently rounded in, so that the wind acting on their hinder surfaces may both push the ship a little ahead and her stern laterally in conjunction with the rudder. Thus the wind is brought upon the quarter, and the headsails shiver. By this time the ship has acquired some headway. A continuation of the rotation would now fill the headsails, and their action would be contrary to the intended evolution. They are therefore immediately braced the other way, nearly square, and the evolution is now completed in the same manner with wearing ship.

Some seamen brace all the sails aback the moment that the helm is put hard a-lee, but the after-sails no more aback than just to square the yards. This quickly gives the ship stern-way, and brings the rudder into action in its inverted direction; and they think that the evolution is accelerated by this method.

There is another problem of seamanship deserving of our attention, which cannot properly be called an evolution. This is lying-to. This is done in general by laying some sails aback, so as to stop the head-way produced by others. But there is a considerable address necessary for doing this in such a way that the ship shall lie easily, and under command, ready to proceed in her course, and easily brought under weigh.

To bring-to with the fore or main-topfail to the mast, brace that sail sharp aback, haul out the mizen, and clap the helm hard a-lee.

Suppose the fore-topfail to be aback; the other sails shoot the ship ahead, and the lee-helm makes the ship come up to the wind, which makes it come more perpendicularly on the sail which is aback. Then its impulse soon exceeds those on the other sails, which are now shivering, or almost shivering. The ship stands still

awhile, and then falls off, so as to fill the after-sails, which again shoot her ahead, and the process is thus repeated. A ship lying-to in this way goes a good deal ahead and also to leeward. If the main-topfail be aback, the ship shoots ahead, and comes up till the diminished impulse of the drawing sails in the direction of the keel is balanced by the increased impulse on the main-topfail. She lies a long while in this position, driving slowly to leeward; and she at last falls off by the beating of the water on her weather-bow. She falls off but little, and soon comes up again.

Thus a ship lying-to is not like a mere log, but has a certain motion which keeps her under command. To get under weigh again, we must watch the time of falling off; and when this is just about to finish, brace about briskly, and fill the sail which was aback. To aid this operation, the jib and fore-topmast stay-sail may be hoisted, and the mizen brailled up: or, when the intended course is before the wind or large, back the fore-topfail sharp, shiver the main and mizen topfail, brail up the mizen, and hoist the jib and fore-topmast stay-sails altogether.

In a storm with a contrary wind, or on a lee shore, a ship is obliged to lie-to under a very low sail. Some sail is absolutely necessary, in order to keep the ship steadily down, otherwise she would kick about like a cork, and roll so deep as to strain and work herself to pieces. Different ships behave best under different sails. In a very violent gale, the three lower stay-sails are in general well adapted for keeping her steady, and distributing the strain. This mode seems also well adapted for wearing, which may be done by hauling down the mizen-stay-sail. Under whatever sail the ship is brought-to in a storm, it is always with a fitted sail, and never with one laid aback. The helm is lashed down hard a-lee; therefore the ship shoots ahead, and comes up till the sea on her weather-bow beats her off again. Getting under weigh is generally difficult; because the ship and rigging are lofty abaft, and hinder her from falling off readily when the helm is put hard a-weather. We must watch the falling off, and assist the ship by some small head-sail. Sometimes the crew get up on the weather fore-shrouds in a crowd, and thus present a surface to the wind.

THESE examples of the three chief evolutions will enable those who are not seamen to understand the propriety of the different steps, and also to understand the other evolutions as they are described by practical authors. We are not acquainted with any performance in our language where the whole are considered in a connected and systematic manner. There is a book on this subject in French, called *Le Manœuvrier*, by M. Bourdé de Ville-Huet, which is in great reputation in France. A translation into English was published some years ago, said to be the performance of the Chevalier de Saufeuil a French officer. But this appears to be a bookfeller's puff; for it is undoubtedly the work of some person who did not understand either the French language, or the subject, or the mathematical principles which are employed in the scientific part. The blunders are not such as could possibly be made by a Frenchman not versant in the English language, but natural for an Englishman ignorant of French. No French gentleman or officer would have translated a work of this

this kind (which he professes to think so highly of) to serve the rivals and foes of his country. But indeed it can do no great harm in this way; for the scientific part of it is absolutely unintelligible for want of science in the translator; and the practical part is full of blunders for want of knowledge of the French language.

We offer this account of the subject with all proper respect and diffidence. We do not profess to teach: but by pointing out the defects of the celebrated works

of M. Bouguer, and the course which may be taken to remove them, while we preserve much valuable knowledge which they contain, we may perhaps excite some persons to apply to this subject, who, by a combination of what is just in M. Bouguer's theory, with an experimental doctrine of the impulses of fluids, may produce a treatise of seamanship which will not be confined to the libraries of mathematicians, but become a manual for seamen by profession.

S E A

S E A

Seamen.

SEAMEN, such persons as serve the king or others at sea by navigation and fighting ships, &c. See *MARITIME State*.

Seamen fighting, quarrelling, or making any disturbance, may be punished by the commissioners of the navy with fine and imprisonment. Registered seamen are exempted from serving in any parish, office, &c. and are allowed bounty-money beside their pay. By the law of merchants, the seamen of a vessel are accountable to the master or commander, the master to the owners, and the owners to the merchants, for damage sustained either by negligence or otherwise. Where a seaman is hired for a voyage, and he deserts before it is ended, he shall lose his wages; and in case a ship be lost in a storm, the seamen lose their wages, as well as the owners their freight.

Means of Preserving the Health of SEAMEN. See *MEDICINE*, n° 351.

In addition to what has been said on this subject in the place referred to, we shall subjoin some valuable observations which we have met with in the sixth volume of the *Memoirs of the Royal Society of Medicine* at Paris for the years 1784 and 1785.

In 1783, the marshal de Castries, intending to make some changes in the regulations of the navy, particularly with regard to diet, proposed to the society the two following questions: 1. "What are the most wholesome aliments for seamen, considering the impossibility of procuring them fresh meat? And what kinds of salt meat, or fish, of pulse, and of drink, are most proper for them, and in what quantity, not omitting to inquire into the regimens in use amongst other maritime nations for what may be adopted by us, and into what experience has evinced the utility of, from the accounts of the most celebrated navigators?" 2. "A number of patients labouring under different diseases being assembled in naval hospitals, and different constitutions affected by the same disease requiring difference of diet, what general dietetic rules for an hospital would be best adapted to every exigence, dividing the patients into three classes; the first in which liquids alone are proper, the second in which we begin to give solids in small quantities, and the state of convalescence in which a fuller diet is necessary?" A committee was appointed to draw up an answer to these, who investigated the subject very minutely. The result of their labours is there given at large. The observations most worthy of notice are, that the scurvy of the English seamen, who live chiefly on salt-meat, is a putrid disease; whilst that of the Dutch, who use farinaceous vegetables and dried pulse in large quantities, has more of an hydropical tendency. A mixture of both, even at the same meal,

is recommended. This is supported by philosophical reasoning, and the example of Captain Cook, who was partly indebted to this mixed regimen for the preservation of his crew. Salt fish should never be used: salt beef grows hard, and after boiling its fibrous parts only remain, which are more calculated to load the stomach than recruit the strength. Salt bacon may be kept at sea 18 months; it does not lose its moist and nutritional parts, and unites better with pulse, but should not be used when rancid. Live animals kept on board ships tend to produce diseases amongst the crew. Rice should be used largely. Our puddings are bad food: the flour would be much better made into bread, which might be done at sea with no great trouble. Sour kroust should be used freely. Mustard, vinegar, sugar, melasses, and honey, are good antiscorbutics. Of drinks, wine is the best: wort, spruce-beer, or the Russian *quas*, are good substitutes. Spirits are only to be used in cold climates, and in small quantity. The greater part of the excellent memoir in answer to the second question, perfectly coincides with M. Duhamel du Monceaux's "Means of Preserving the Health of Seamen," and M. Poissonnier des Perrieres's treatises "On the Diseases of Seamen," and "On the advantages of changing the Diet of Seamen," and his "Examination of Pringle's Dissertation."

SEAPOYS, or SEROYS, natives of Indostan serving in a military capacity under the European powers, and disciplined after the European manner.

The Seapoys of the English East India company compose perhaps the most numerous, regular, and best disciplined body of black troops in the world. They are raised from among the natives of the country, and consist of Moors or Mahometans, Raja-poots, Hindoos, Pariars, besides many intermediate casts peculiar to themselves; the whole modelled in all corresponding particulars, and disciplined in every respect as the army of Great Britain.

The military establishments of Bengal, Madras, and Bombay, have each their respective numbers, that of Bengal exceeding the rest. The Seapoys are formed into complete, uniform, and regular battalions, as our marching regiments at home, being intended to represent and answer fully to every purpose in India to the like troops in Europe. A battalion consists of 700 men, of complete effective strength. In each there are eight companies, including two flank ones or grenadiers. They are respectively commanded by their own black and European officers; to each company there is attached a subaltern, who takes the command, under whom are two native commissioned officers, bearing the rank of subidar and jimindar; of eight subalterns, six

Seamen,
Seapoys.

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Seapoys are lieutenants, the other ensigns; exclusive is a staff, of adjutant and surgeon. The black non-commissioned officers answer to our serjeants and corporals, and are called *havildars* and *naigues*. There is also to each corps an English serjeant-major, drill and store serjeant; to each battalion is a band of drums and fifes, and to each a pair of colours. A captain commands the whole.

Their jackets, which are made entirely after the European fashion, are of a red colour with yellow facings (as worn by all the infantry of the company on the Coromandel coast). The remaining part of their attire resembles more the country or Indian habit, and consists of a dark blue turban, broad and round at top, descending deep to the bottom, the sides of which, of a concave form, are crossed by a white band, running in front, fastened under a rose above. As an under garment, they have a jacket of linen. A dark blue sash girding, to answer the turban, goes round their middle. On the thighs they have short drawers, fastened by a scoloped band. Their legs are bare, which renders them more ready for action or service. Their arms are a firelock and bayonet; their accoutrements or cross belts black leather, with pouches the same.

A battalion drawn out cannot but strike the spectators with a lively and fanciful military impression, as they unite in their exterior traits respectively Indian and European.

They are brought to the utmost exactness of discipline; go through their evolutions and manœuvres with a regularity and precision equal to, and not surpassed by, European troops. In action they are brave and steady, and have been known to stand where Europeans have given way.

Their discipline puts them on a footing with European troops, with whom they are always ready to act in concert.

Their utility and services are evident: they secure to the company the internal good order and preservation of their territorial districts, which, though possible to be enforced with a strong hand by Europeans, requires numbers, and can only be conducted with that ease and address peculiar to the native forces of the country.

They are considered with respect in the eyes of the other natives, though they sufficiently, and with a good grace, feel and assert their own consequence. In large garrisons, where the duty is great, as Madras, Pondicherry, Trichinopoly, Vellore, &c. two or three battalions might be present together, exclusive of Europeans. If sent singly up the country, they are liable to be detached, sometimes by one or more companies being sent to a station dependent on the chief garrison or headquarters, otherwise they are dispersed through the districts, four or five together, with a non-commissioned officer (this is a part of the service which is called *going on command*), on hills, or in villages, to preserve order, convey intelligence, and assist the talildar, renter, or cutwall of the place, in cases of emergency. They also enforce the police, and prevent in such cases the country from being infested with thieves, which otherwise have combined, forming a banditti, to rob passengers and plunder cattle, of which there are so many instances upon record. As for such British officers in the company's service as are attached to battalions, they are obliged to follow the fortunes and destinations of their

men, with their respective corps, leading a life often replete with adventures of a peculiar nature. An individual in such cases is frequently secluded from those of his own colour when up the country, or detached upon command, where in a frontier garrison or hill fort in the interior parts of India none but natives are to be found. Here he might live as he pleases, being perfectly absolute within his jurisdiction. Such stations being lucrative, with management may produce great fortunes. Neither is the condition hard to a person conversant in the language of the country, or that of the Seapoys called *Moors* (which most officers in the company's service acquire); otherwise the loss of society is not recompensed by other advantages, as you forget your own language, grow melancholy, and pass your days without comfort.

The peace establishment at Madras consists of 30 Seapoy battalions, but in time of war is augmented as occasion requires; or frequently each corps is strengthened by the addition of two companies, which are reduced again in time of peace, the officers remaining supernumeraries in the service. In garrison they are quartered in barracks; they live agreeably to the usage of the country, sleep on the ground on a mat or thin carpet. In their persons they are cleanly, but appear to best advantage in their uniform. Off duty they go as the other natives in poor circumstances; and have only a cloth round their middle and over their shoulders. As to the different casts, the Moormen or Mussulmen assert pre-eminence, as coming into the country by conquest. In their persons they are rather robust, and in their tempers vindictive. Their religion and dress is distinct from the Hindoos, who are mild and passive in their temper, faithful, steady, and good soldiers. The Pariahs are inferior to the others, live under different circumstances, dwell in huts, and associate not on equal terms with the rest; they do all menial offices, are servants to Europeans, and think themselves happy when by them employed, though they are equally good Seapoys.

Having thus treated of the company's Seapoys, we shall observe that they are kindly attentive to their officers when often in circumstances requiring their assistance; are guilty of few vices; and have a strong attachment for those who have commanded them. That acute historian Dr Robertson has remarked, as a proof that the ingenuity of man has recourse in similar situations to the same expedients that the European powers have, in forming the establishment of these native troops, adopted the same maxims, and, probably without knowing it, have modelled their battalions of Seapoys upon the same principles as Alexander the Great did his phalanx of Persians.

SEARCH-WARRANT, in law, a kind of general warrant issued by justices of peace or magistrates of towns for searching all suspected places for stolen goods. In Scotland this was often done formerly; and in some English law-books there are precedents requiring the constable to search all such suspected places as he and the party complaining shall think convenient; but such practice is condemned by Lord Hale, Mr Hawkins, and the best authorities both among the English and Scotch lawyers. However, in case of a complaint, and oath made of goods stolen, and that the party suspects that those goods are in a particular house, and shows the

Seapoys
Search-
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Seasoning.

cause of such suspicion, the justice may grant a warrant to search not only that house but other suspected places; and to attach the goods, and the party in whose custody they are found, and bring them before him or some other justice, to give an account how he came by them, and to abide such order as to law shall appertain; which warrant should be directed to the constable or other public officer, who may enter a suspected house and make search.

SEARCHER, an officer in the customs, whose business it is to search and examine ships outward bound, if they have any prohibited goods on board, &c. (12 Car. II.) There are also searchers of leather, &c. See ALNAGER.

SEARCHER, in ordnance, is an iron socket with branches, from four to eight in number, a little bent outwards, with small points at their ends; to this socket is fixed a wooden handle, from eight to twelve feet long, of about an inch and a quarter diameter. After the gun has been fired, this searcher is introduced into it, and turned round, in order to discover the cavities within. The distances of these cavities, if any be found, are then marked on the outside with chalk, when another searcher that has only one point, about which a mixture of wax and tallow is put, is introduced to take the impression of the holes; and if there be any hole, a quarter of an inch deep, or of any considerable length, the gun is rejected as unserviceable.

SEARCLOTH, or CERECLOTH, in surgery, a form of external remedy somewhat harder than an unguent, yet softer than an emplaster, though it is frequently used both for the one and the other. The cerecloth is always supposed to have wax in its composition, which distinguishes and even denominates it. In effect, when a liniment or unguent has wax enough in it, it does not differ from a cerecloth.

SEASIN, in a ship, the name of a rope by which the boat rides by the ship's side when in harbour, &c.

SEASONING, the first illness to which persons habituated to colder climates are subject on their arrival in the West Indies. This seasoning, unless they live very temperately, or are in a proper habit of body (tho' some people are unmolested for many months), seldom suffers them to remain long before it makes its appearance in some mode or other; particularly if at first they expose themselves in a shower of rain, or too long in the sun, or in the night-air; or when the body is much heated, if they drink large draughts of cold liquors, or bathe in cold water; or use much exercise; or commit excess in drinking wine or spirits; or by heating the body and inflaming the blood; or by subjecting themselves to any cause that may suddenly check perspiration, which at first is generally excessive.

Some people, from a favourable state of body, have no seasoning. Thin people, and very young people, are most likely to escape it. Women generally do from their temperance, and perhaps their menstruation contributes to their security; indeed hot climates are favourable to the delicacy of their habits, and suitable to their modes of life. Some escape by great regularity of living; some, by the breaking out of the rash, called the *prickly heat*; some by a great degree of perspiration; and some by observing a cooling regimen. The disorders are various that constitute this seasoning of

new-comers as they are called; depending on age, constitution, and habit of body. But all seasoning diseases are of the inflammatory kind; and yield to antiphlogistic treatment proportioned to their violence. When all precaution to guard against sickness has failed, and prudence proved abortive to new-comers, they will have this comfort at least for their pains, that their disorders will seldom be severe or expensive, and will generally have a speedy termination; and that their seasoning, as it is emphatically called, will be removed by bleeding, a dose of salts, rest, and a cooling regimen.

SEASONING of Timber. See TIMBER.

SEASONS, in cosmography, certain portions or quarters of the year, distinguished by the signs which the sun then enters, or by the meridian altitudes of the sun; consequent on which are different temperatures of the air, different works in tillage, &c. See WEATHER.

The year is divided into four seasons, spring, summer, autumn, and winter. The beginnings and endings of each whereof, see under its proper article. It is to be observed, the seasons anciently began differently from what they now do: witness the old verses,

*Dat Clemens hyemem; dat Petrus ver cathedratus;
Æstuat Urbanus; autumnat Bartholomæus.*

SEAT, in the manege, is the posture or situation of a horseman upon the saddle.

SEATON, a small fishing town on the south coast of Devon, between Lyme and Sidmouth. Risdon says: "our learned antiquarians would have it to be that *Maridunum* whereof Antonine spake, placed between *Dunnovaria* and *Isca*; for *Maridunum* in British is the same with *Seaton* in English, 'a town upon a hill by the sea-side.'" This place is memorable for the Danish princes landing there in the year 937.

SEBACIC ACID, the acid procured from fat. To obtain it, let some suet be melted in a skillet over the fire, along with some quicklime in fine powder, and constantly stirred, raising the fire towards the end of the operation, and taking care to avoid the vapours, which are very offensive. By this process the sebatic acid unites with the lime into a sebat of lime, which is difficultly soluble in water; it is, however, separated from the fatty matters with which it is mixed by solution in a large quantity of boiling water. From this the neutral salt is separated by evaporation; and, to render it pure, is calcined, redissolved, and again crystallized. After this we pour on a proper quantity of sulphuric acid, and the sebatic acid passes over by distillation. See FAT, and CHEMISTRY-Index.

ST SEBASTIAN, a handsome, populous, and strong town of Spain, in the province of Guipuscoa, with a good and well-frequented harbour. It is seated at the foot of a mountain; and the harbour secured by two moles, and a narrow entrance for the ships. The town is surrounded with a double wall, and to the sea-side is fortified with bastions and half moons. The streets are long, broad, and straight, and paved with white flagstones. At the top of the mountain is a citadel with a garrison well furnished with cannon. The town carries on a considerable trade, the greatest part of which consists of iron and steel, which some reckon to be the best in Europe. They also deal in wool, which comes from

Seasoning
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St Sebastian.

Moseley on
Tropical
Diseases.

Sebastiano from Old Castile. W. Long. 1. 59. N. Lat. 43. 23.—
 The capital of Brasil in South America is likewise called *Sebastian*.

||
 Secale.

SEBASTIANO, called *Del Piombo*, from an office in the lead mines given him by Pope Clement VII. was an eminent Venetian painter, born in 1485. He was first a disciple of old Giovanni Bellino; continued his studies under Giorgione; and having attained an excellent manner of colouring, went to Rome, where he insinuated himself into the favour of Michael Angelo. He has the name of being the first who invented the art of preparing plaster-walls for oil-painting; but was so slow and lazy in his work, that other hands were often employed to finish what he began. He died in 1547.

SEBESTEN, in botany. See CORDIA.

SEBUÆI, a sect among the ancient Samaritans, whom St Epiphanius accuses of changing the time expressed in the law, for the celebration of the great annual feasts of the Jews.

SEBURAI, SEBURÆI, a name which the Jews give to such of their rabbins or doctors as lived and taught some time after the finishing of the Talmud.

SECACUL, in the materia medica of the ancients, a name given by Avicenna, Serapion, and others, to a root which was like ginger, and was brought from the East Indies, and used as a provocative to venery. The interpreters of their works have rendered this word *iringo*; and hence some have supposed that our *eryngium* or *eryngo* was the root meant by it: but this does not appear to be the case on a strict inquiry, and there is some reason to believe that the famous root, at this time called *ginseng*, was what they meant.

SECALE, RYE, in botany: A genus of the digynia order, belonging to the triandria class of plants; and in the natural method ranking under the 4th order, *Gramina*. The calyx is a glume of two leaves, which are opposite to one another, erect, linear, pointed, and less than the corolla. The corolla consists of two valves, the exterior of which ends in a beard. There are four species, the *villosum*, *orientale*, *creticum*, and *cereale*. The *villosum*, or wood rye-grass, is distinguished by a calyx with wedge-shaped scales, and by the fringe of the glume being woolly. The glumes of the *orientale* are shaggy, and the scales of the calyx shaped like an awl. The glumes of the *creticum* are fringed on the outside. The *cereale*, or common rye, has glumes with rough fringes. It is a native of the island of Candia, was introduced into England many ages ago, and is the only species of rye cultivated in this kingdom. There are, however, two varieties, the winter and spring rye.

The winter rye, which is larger in the grain than the spring rye, is sown in autumn at the same time with wheat, and sometimes mixed with it; but as the rye ripens sooner than the wheat, this method must be very exceptionable. The spring rye is sown along with the oats, and usually ripens as soon as the winter rye; but the grain produced is lighter, and it is therefore seldom sown except where the autumnal crop has failed.

Rye is commonly sown on poor, dry, limestone, or

fandy soils, where wheat will not thrive. By continuing to sow it on such a soil for two or three years, it will at length ripen a month earlier than that which has been raised for years on strong cold ground.

Rye is commonly used for bread either alone or mixed with wheat. This mixture is called *meslin*, and was formerly a very common crop in some parts of Britain. Mr Marshall tells us, that the farmers in Yorkshire believe that this mixed crop is never affected by mildew, and that a small quantity of rye sown among wheat will prevent this destructive disease. Rye is much used for bread in some parts of Sweden and Norway by the poor people. About a century ago rye-bread was also much used in England; but being made of a black kind of rye, it was of the same colour, clammy, very detergent, and consequently not so nourishing as wheat.

Rye is subject to a disease which the French call *ergot*, and the English *horned rye*; which sometimes happens when a very hot summer succeeds a rainy spring. According to Tissot, horned rye is such as suffers an irregular vegetation in the middle substance between the grain and the leaf, producing an excrescence of a brownish colour, about an inch and a half long, and two-tenths of an inch broad. Bread made of this kind of rye has a nauseous acrid taste, and produces spasmodic and gangrenous disorders. In 1596, an epidemic disease prevailed in Hesse, which the physicians ascribed to bread made of horned rye. Some, we are told, were seized with an epilepsy, and these seldom ever recovered; others became lunatic, and continued stupid the rest of their lives: those who apparently recovered had annual returns of their disorder in January and February; and the disease was said to be contagious at least in a certain degree. The facts which we have now mentioned are taken from a work of Tissot, which was never printed. The same disease was occasioned by the use of this bread in several parts of the continent in the years 1648, 1675, 1702, 1716, 1722, and 1736; and has been very minutely described by Hoffman, A. O. Goelicke, Vater Burghart, and J. A. Srink.

In the year 1709, one fourth part of all the rye raised in the province of Salonia in France was horned, and the surgeon to the hospital of Orleans had no less than 500 patients under his care that were disordered by eating it: They were called *ergots*, from *ergot* (A), the French name for horned rye; they consisted chiefly of men and boys, the number of women and girls being very small. The first symptom was a kind of drunkenness, then the local disorder began in the toes, and thence extended sometimes to the thigh, and the trunk itself, even after amputation, which is a good argument against that operation before the gangrene is stopped.

In the year 1710, the celebrated Fontenelle describes a case in the History of the Academy of Sciences of France, which exactly resembles that of the poor family at Wattisham. A peasant at Blois, who had eaten horned rye in bread, was seized with a mortification, which first caused all the toes of one foot to fall off, then

Secale.

(A) *Ergot* is French for a cock's spur, and horned rye was called *ergot* from the resemblance of its excrescence to that part.

Secant.
Seceders.

then the toes of the other, afterwards the remainder of the feet, and, lastly, it eat off the flesh of both his legs and thighs, leaving the bones bare.

Horned rye is not only hurtful to man, but to other animals; it has been known to destroy even the flies that settled upon it; sheep, dogs, deer, geese, ducks, swine, and poultry, that were fed with it for experiment, died miserably, some convulsed, others mortified and ulcerated.

SECANT, in geometry, a line that cuts another or divides it into parts. The secant of a circle is a line drawn from the circumference on one side to a point without the circumference on the other; and it is demonstrated by geometers, that of several secants drawn to the same point, that is the longest which passes thro' the centre of the circle. The portions, however, of these several secants that are without the circle are so much the greater as they recede from the centre, and the least external portion is of that secant which passes through it.

SECANT, in trigonometry, denotes a right line drawn from the centre of a circle, which, cutting the circumference, proceeds till it meets with a tangent to the same circle. See **GEOMETRY**, n° 24—28.

Line of SECANTS, one of those lines or scales which are usually put upon sectors. How such a scale is formed will be seen by a bare inspection of fig. 53. Plate CCXV.; for C 10, C 20, C 30, &c. drawn from the centre C to the line of tangents BE, being the real secants of the arches B 10, B 20, B 30, it is obvious that by marking off the distances B 10, B 20, B 30, upon any other line, we make that line a scale of secants.

Seceders.

SECEDERS, a numerous body of Presbyterians in Scotland, who have withdrawn from the communion of the established church. As they take up their ground upon the establishment of religion from 1638 to 1650, which they hold to be the purest period of the Scottish church, we shall introduce our account of them by a short review of ecclesiastical history from that period to the era of their secession. With our usual candour and impartiality we mean to give a fair statement of those events with which, as they say, their secession is connected.

James I. having for some time previous to his death entertained a wish to form the church of Scotland as much as possible upon the model of that in England, his son Charles, with the assistance of archbishop Laud, endeavoured to carry the design into execution, by establishing canons for ecclesiastical discipline, and introducing a liturgy into the public service of the church. Numbers of the clergy and laity of all ranks took the alarm at what they considered to be a bold and dangerous innovation; and after frequent applications to the throne, they at last obtained the royal proclamation for a free parliament and general assembly. The assembly met in 1638, and began their labours with a repeal of all the acts of the six preceding parliaments, which had favoured the designs of James. They condemned the liturgy, together with every branch of the hierarchy. They cited all the Scottish bishops to their bar; and after having excommunicated nine of them, and deposed five from their episcopal office, they restored kirk-sessions, presbyteries, and synods provincial as well as national. See **PRESBYTERIANS**.

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These proceedings were ratified by the parliament which met in 1640. The law of patronage was in full force for several years after this period; yet great care was taken that no minister should be obtruded on the Christian people contrary to their inclinations; and in 1649 it was abolished as an oppressive grievance.

The Restoration of Charles II. in 1660 changed the face of affairs in the church of Scotland. All that the general assembly had done from 1638 to 1650 was rendered null and void, their covenants were pronounced to be unlawful, episcopacy was restored, and the king was declared to be the supreme head of the church in all causes civil and ecclesiastical. During this period the Presbyterians were subjected to fines and imprisonment, while numbers of them were publicly executed for their adherence to their political and religious tenets.

The Revolution in 1688 gave a different turn to the affairs of the church. The first parliament which met after that event, abolished prelacy and the king's supremacy in ecclesiastical affairs. They ratified the Westminster Confession of Faith, together with the Presbyterian form of church-government and discipline, "as agreeable to the word of God, and most conducive to the advancement of true piety and godliness, and the establishment of peace and tranquillity within these realms." That same parliament abolished patronage, and lodged the election of ministers in the hands of heritors and elders, with the consent of the congregation.

In the reign of Q. Anne the true Protestant religion was ratified and established, together with the Presbyterian form of church-government and discipline; and the unalterable continuance of both was declared to be an essential condition of the union of the two kingdoms in all time coming. In 1712 the law respecting patronage was revived, in resentment, it has been said, of that warm attachment which the church of Scotland discovered to the family of Hanover; but the severity of that law was greatly mitigated by the first parliament of George I. stat. 50. by which it is enacted, that if the presentee do not signify his acceptance, the presentation shall become void and null in law. The church, however, did not avail herself of this statute; and an event which happened not many years afterwards gave rise to the *secession*.

In 1732 more than 40 ministers presented an address to the general assembly, specifying in a variety of instances what they considered to be great defections from the established constitution of the church, and craving a redress of these grievances. A petition to the same effect, subscribed by several hundreds of elders and private Christians, was offered at the same time; but the assembly refused a hearing to both, and enacted, that the election of ministers to vacant charges, where an accepted presentation did not take place, should be competent only to a conjunct meeting of elders and heritors, being Protestants. To this act many objections were made by numbers of ministers and private Christians. They asserted that more than 30 to one in every parish were not possessed of landed property, and were on that account deprived of what they deemed their natural right to choose their own pastors. It was also said, that this act was extremely prejudicial to the honour and interest of the church, as well as to the edification of the people; and in fine, that it was directly

Seceders.

2
Origin of

F f

contrary

Seceders.

contrary to the appointment of Jesus Christ, and the practice of the apostles, when they filled up the first vacancy in the apostolic college, and appointed the election of deacons and elders in the primitive church.— Many of those also who were thought to be the best friends of the church, expressed their fears that this act would have a tendency to overturn the ecclesiastical constitution which was established at the Revolution.

3
They oppose the measures of the general assembly;

Mr Ebenezer Erskine minister at Stirling distinguished himself by a bold and determined opposition to the measures of the assembly in 1732. Being at that time moderator of the synod of Perth and Stirling, he opened the meeting at Perth with a sermon from Psalm cxviii. 22. "The stone which the builders rejected is become the head stone of the corner." In the course of his sermon he remonstrated with no small degree of freedom against the act of the preceding assembly with regard to the settlement of ministers, and alleged that it was contrary to the word of God and the established constitution of the church. A formal complaint was lodged against him for uttering several offensive expressions in his sermon before the synod. Many of the members declared that they heard him utter nothing but sound and seasonable doctrine; but his accusers insisting on their complaint, obtained an appointment of a committee of synod to collect what were called the offensive expressions, and to lay them before the next diet in writing. This was done accordingly; and Mr Erskine gave in his answers to every article of the complaint. After three days warm reasoning on this affair, the synod by a majority of six found him censurable; against which sentence he protested, and appealed to the next general assembly. When the assembly met in May 1733, it affirmed the sentence of the synod, and appointed Mr Erskine to be rebuked and admonished from the chair. Upon which he protested, that, as the assembly had found him censurable, and had rebuked him for doing what he conceived to be agreeable to the word of God and the standards of the church, he should be at liberty to preach the same truths, and to testify against the same or similar evils, on every proper occasion. To this protest Messrs William Willon minister at Perth, Alexander Moncrief minister at Abernethy, and James Fisher minister at Kinclaven, gave in a written adherence, under the form of instrument; and these four withdrew, intending to return to their respective charges, and act agreeably to their protest whenever they should have an opportunity. Had the affair rested here, there never would have been a secession; but the assembly resolving to carry on the process, cited them by their officer to compare next day. They obeyed the citation; and a committee was appointed to retire with them, in order to persuade them to withdraw their protest. The committee having reported that they still adhered to their protest, the assembly ordered them to appear before the commission in August following and retract their protest; and if they should not comply and testify their sorrow for their conduct, the commission was empowered to suspend them from the exercise of their ministry, with certification that if they should act contrary to said sentence, the commission should proceed to an higher censure.

The commission met in August accordingly; and the

four ministers still adhering to their protest, were suspended from the exercise of their office, and cited to the next meeting of the commission in November following. From this sentence several ministers and elders, members of the commission, dissented. The commission met in November, and the suspended ministers compeared. Addreses, representations, and letters from several synods and presbyteries, relative to the business now before the commission, were received and read. The synods of Dumfries, Murray, Ross, Angus and Mearns, Perth and Stirling, craved that the commission would delay proceeding to an higher censure. The synods of Galloway and Fife, as also the presbytery of Dornoch, addressed the commission for lenity, tenderness, and forbearance, towards the suspended ministers; and the presbytery of Aberdeen represented, that, in their judgment, the sentence of suspension inflicted on the fore said ministers was too high, and that it was a stretch of ecclesiastical authority. Many members of the commission reasoned in the same manner, and alleged that the act and sentence of last assembly did not oblige them to proceed to an higher censure at this meeting of the commission. The question, however, was put, Proceed to an higher censure, or not? and the votes being numbered, were found equal on both sides: upon which Mr John Goldie the moderator gave his casting vote to proceed to an higher censure; which stands in their minutes in these words: "The commission did and hereby do loose the relation of Mr Ebenezer Erskine minister at Stirling, Mr William Willon minister at Perth, Mr Alexander Moncrief minister at Abernethy, and Mr James Fisher minister at Kinclaven, to their respective charges, and declare them no longer ministers of this church; and do hereby prohibit all ministers of this church to employ them, or any of them, in any ministerial function. And the commission do declare the churches of the said ministers vacant from and after the date of this sentence."

This sentence being intimated to them, they protested, that their ministerial office and relation to their respective charges should be held as valid as if no such sentence had passed; and that they were now obliged to make a secession from the prevailing party in the ecclesiastical courts; and that it shall be lawful and warrantable for them to preach the gospel, and discharge every branch of the pastoral office, according to the word of God and the established principles of the church of Scotland. Mr Ralph Erskine minister at Dunfermline, Mr Thomas Mair minister at Orwel, Mr John McLaren minister at Edinburgh, Mr John Currie minister at Kinglassie, Mr James Wardlaw minister at Dunfermline, and Mr Thomas Nairn minister at Abbotshal, protested against the sentence of the commission, and that it should be lawful for them to complain of it to any subsequent general assembly of the church.

The secession properly commenced at this date. And accordingly the ejected ministers declared in their protest that they were laid under the disagreeable necessity of seceding, not from the principles and constitution of the church of Scotland, to which, they said, they steadfastly adhered, but from the present church-courts, which had thrown them out from ministerial communion. The assembly, however, which met in May 1734 did so far modify the above sentence, that they empowered the synod of Perth and Stirling to receive the ejected ministers

Seceders.

5
Suspended from the exercise of their office,

6
Deprived of their livings,

4
For which their ministers are censured,

Seceders. ministers into the communion of the church, and restore them to their respective charges; but with this express direction, "that the said synod should not take upon them to judge of the legality or formality of the former procedure of the church judicatories in relation to this affair, or either approve or censure the same." As this appointment neither condemned the act of the preceding assembly nor the conduct of the commission, the seceding ministers considered it to be rather an act of grace than of justice, and therefore they said they could not return to the church-courts upon this ground; and they published to the world the reasons of their refusal, and the terms upon which they were willing to return to the communion of the established church. They now erected themselves into an ecclesiastical court, which they called the *Associated Presbytery*, and preached occasionally to numbers of the people who joined them in different parts of the country. They also published what they called an *Act, Declaration, and Testimony*, to the doctrine, worship, government, and discipline of the church of Scotland, and against several instances, as they said, of defection from these, both in former and in the present times. Some time after this several ministers of the established church joined them, and the Associated Presbytery now consisted of eight ministers. But the general assembly which met in 1738 finding that the number of Seceders was much increased, ordered the eight ministers to be served with a libel, and to be cited to the next meeting of the assembly in 1739. They now appeared at the bar as a constituted presbytery, and having formally declined the assembly's authority, they immediately withdrew. The assembly which met next year deposed them from the office of the ministry; which, however, they continued to exercise in their respective congregations, who still adhered to them, and erected meeting-houses, where they preached till their death. Mr James Fisher, the last survivor of them, was, by an unanimous call in 1741, translated from Kinclaven to Glasgow, where he continued in the exercise of his ministry among a numerous congregation, respected by all ranks in that large city, and died in 1775 much regretted by his people and friends. In 1745 the seceding ministers were become so numerous, that they were erected into three different presbyteries, under one synod, when a very unprofitable dispute divided them into two parties.

⁷ And de-
graded.

⁸ They di-
vide among
themselves
about the
legality of
the burghs
oath,

The burghs oath in some of the royal boroughs of Scotland contains the following clause: "I profess and allow with my heart the true religion presently professed within this realm, and authorised by the laws thereof. I will abide at and defend the same to my life's end, renouncing the Romish religion called *Papistry*." Messrs Ebenezer and Ralph Erskine, James Fisher, and others, affirmed that this clause was no way contrary to the principles upon which the secession was formed, and that therefore every Seceder might lawfully swear it. Messrs Alexander Moncrief, Thomas Mair, Adam Gib, and others, contended on the other hand

that the swearing of the above clause was a virtual renunciation of their testimony. And this controversy was so keenly agitated, that they split into two different parties, and now meet in different synods. Those of them who assert the lawfulness of swearing the burghs oath are called *Burghers*, and the other party who condemn it are called *Antiburgher Seceders*. Each party claiming to itself the lawful constitution of the *Associate Synod*, the Antiburghers, after several previous steps, excommunicated the Burghers on the ground of their sin and of their contumacy in it. This rupture took place in 1747, since which period no attempts to effect a reunion have been successful. They remain under the jurisdiction of different synods, and hold separate communion, although much of their former hostility has been laid aside. The Antiburghers consider the Burghers as too lax and not sufficiently steadfast to their testimony. The Burghers on the other hand contend that the Antiburghers are too rigid, in that they have introduced new terms of communion into the society. The Antiburghers having adopted ideas with regard to what they call *covenanting*, which the Burghers never approved (A), have been in use of renewing in their several congregations the Scottish Covenant, by causing their people formally swear to maintain it. In other respects the differences between the two parties are not material. The Antiburghers are most numerous on the north of the Tay, and the Burghers on the south of it.

⁹ And form
separate
communi-
ons.

¹⁰ History of
the Burgh-
er Seceders.

What follows in this article is a further account of those who are commonly called the *Burgher Seceders*. These have a greater number of people in their communion than the Antiburghers, and for some years past they have greatly increased in the southern and western districts of Scotland. As there were among them from the commencement of their secession several students who had been educated at one or other of the universities, they appointed one of their ministers to give lectures in theology, and train up candidates for the ministry. Messrs William Wilson minister at Perth and Alexander Moncrief minister at Abernethy were their professors of theology before their separation from the Antiburghers.

Since that period Mr Ebenezer Erskine minister at Stirling, Mr James Fisher minister at Glasgow, Mr John Swanston minister at Kinross, and Mr John Brown minister at Haddington, have succeeded each other in this office. At present (1794) Mr George Lawson minister at Selkirk is their professor of theology, and there are between thirty and forty students who attend his lectures annually. The number of their ministers is about an hundred, and each of their congregations contain from two hundred and fifty to three thousand persons; and there are among them at present more than twenty vacant charges. Where a congregation is very numerous, as in Stirling, Dunfermline, and Perth, it is formed into a collegiate charge, and provided with two ministers. They are erected into six different

F f 2

(A) This is the account which the Burghers give of their own notions respecting the covenant. One of the most enlightened of their opponents, however, assure us that they acknowledge covenanting to be a *moral duty*, and that the solemn vows of our ancestors are obligatory. But since the breach in the synod they have never engaged in this work; giving, as their reason, that this is not the proper season.

Seceders. ferent presbyteries, united in one general synod, which commonly meets at Edinburgh in May and September (B). They have also a synod in Ireland composed of three or four different presbyteries. They are legally tolerated in Ireland; and government some years ago granted L. 500 *per annum*, and of late an additional L. 100, which, when divided among them, affords to each minister about L. 20 over and above the stipend which he receives from his hearers. These have besides a presbytery in Nova Scotia; and some years ago, it is said, that the Burgher and the Antiburgher ministers residing in the United States formed a coalition and joined in a general synod, which they call the *Synod of New York and Pennsylvania*. They all preach the doctrines contained in the Westminster Confession of Faith and Catechisms, as they believe these to be founded on the sacred scriptures. They catechise their hearers publicly, and visit them from house to house once every year. They will not give the Lord's supper to those who are ignorant of the principles of the gospel, nor to such as are scandalous and immoral in their lives. They condemn private baptism, nor will they admit those who are grossly ignorant and profane to be sponsors for their children. Believing that the people have a natural right to choose their own pastors, the settlement of their ministers always proceeds upon a popular election; and the candidate who is elected by the majority is ordained among them. Convinced that the charge of souls is a trust of the greatest importance, they carefully watch over the morals of their students, and direct them to such a course of reading and study as they judge most proper to qualify them for the profitable discharge of the pastoral duties. At the ordination of their ministers they use a *formula* of the same kind with that of the established church, which their ministers are bound to subscribe when called to it; and if any of them teach doctrines contrary to the scriptures or the Westminster Confession of Faith, they are sure of being thrown out of their communion. By this means uniformity of sentiment is preserved among them; nor has any of their ministers, excepting one, been prosecuted for error in doctrine since the commencement of their secession.

11
Their rules
of faith,

They believe that the holy scriptures are the sole criterion of truth, and the only rule to direct mankind to glorify and enjoy God, the chief and eternal good; and that "the Supreme Judge, by which all controversies of religion are to be determined, and all the decrees of councils, opinions of ancient writers, doctrines of men and private spirits, are to be examined, and in whose sentence we are to rest, can be no other but the Holy Spirit speaking in the scriptures." They are fully persuaded, however, that the standards of public authority in the church of Scotland exhibit a just and

consistent view of the meaning and design of the holy scriptures with regard to doctrine, worship, government, and discipline; and they in so far differ from the dissenters in England, in that they hold these standards to be not only articles of peace and a test of orthodoxy, but as a bond of union and fellowship. They consider a simple declaration of adherence to the scriptures as too equivocal a proof of unity in sentiment, because Arians, Socinians, and Arminians, make such a confession of their faith, while they retain sentiments which they (the Seceders) apprehend are subversive of the great doctrines of the gospel. They believe that Jesus Christ is the only King and Head of the Church, which is his body; that it is his sole prerogative to enact laws for the government, of his kingdom, which is not of this world; and that the church is not possessed of a legislative, but only of an executive power, to be exercised in explaining and applying to their proper objects and ends those laws which Christ hath published in the scriptures. Those doctrines which they teach relative to faith and practice are exhibited at great length in an explanation of the Westminster Assembly's Shorter Catechism, by way of question and answer, in two volumes, composed chiefly by Mr James Fisher late of Glasgow, and published by desire of their synod.

For these fifty years past, the grounds of their secession, they allege, have been greatly enlarged by the public administrations of the established church, and particularly by the uniform execution of the law respecting patronage, which, they say, has obliged many thousands of private Christians to withdraw from the parish-churches and join their society.

It is certain, however, that their number has rapidly increased of late, especially in the large cities of the kingdom. They have three different congregations in Edinburgh, two in Glasgow, and two in London, besides several others in the north of England. In most of their congregations they celebrate the Lord's supper twice in the year, and they catechise their young people concerning their knowledge of the principles of religion previously to their admission to that sacrament. When any of them fall into the sin of fornication or adultery, the scandal is regularly purged according to the form of process in the established church; and those of the delinquents who do not submit to adequate censure are publicly declared to be fugitives from discipline, and are expelled the society. They never accept a sum of money as a commutation for the offence. They condemn all clandestine and irregular marriages, nor will they marry any persons unless they have been proclaimed in the parish church on two different Lord's days at least.

When they separated from the established church, and political principles they remained firm in their attachment to the state; and they

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(B) The constitution of the Antiburgher church differs very little from that of the Burghers. The supreme court among them is designed *The General Associate Synod*, having under its jurisdiction three provincial synods in Scotland and one in Ireland. In the former country there are eleven presbyteries; in the latter, four. They have a few congregations in England, and a presbytery in connection with them in North America. The number of ministers belonging to the general synod is a hundred and thirty-seven; and in Scotland there are nineteen vacancies. They, as well as the Burgher Seceders, have a professor of theology, whose lectures every candidate for the office of a preacher is obliged to attend, we have been told, for no less than five or six sessions! Surely the session must be of short duration.

*Seceders,
Sechium.*

they were not many years formed into a distinct society, when they expelled from their communion a Mr Thomas Nairn minister at Kirkcaldy, who had taught doctrines inimical to the civil government of the nation. In 1745 there was not one of their number who joined the then pretender to the British crown. They are still of the same sentiments; and in their public assemblies they always pray for our sovereign King George, with the royal family, and for all who are in authority under them. They are so far from wishing the overthrow of the present civil government, that when the nation was lately in danger of being thrown into a fermentation by the circulation of inflammatory and seditious writings, they warmly recommended peace and order in society (c). No legal disqualifications, as in the case of the dissenters in England, exclude them from any place of public trust in the municipal government of the country; and some of them are frequently in the magistracy of the royal boroughs. They are not, however, legally tolerated, but are supported by the mildness of administration and the liberal spirit of the times. Avowing their adherence to the doctrines contained in the public standards of the church of Scotland, together with the presbyterian form of government, from which they never intended to secede, they deny that they are either schismatics or sectaries, as they have been frequently called; and when they withdrew from the ecclesiastical courts, they did not, they say, constitute a church of their own, different from the national church, but profess to be a part of that church, endeavouring to hold by her reformed principles, in opposition to those deviations from them which they have specified in their *AA and Testimony*. Most of them live in habits of friendship and intimacy with their brethren of the establishment, and they profess an affectionate regard for all those of every denomination who love Jesus Christ in sincerity and truth. In the late re-exhibition of their testimony, they have declared to the world, that, were the grounds of their secession happily removed, they would account it one of the most singular felicities of their time to return with pleasure to the communion of the established church.

SECHIUM, in botany: A genus of the syngenesia order, belonging to the monœcia class of plants; and in the natural method ranking under the 34th order, *Cucurbitaceæ*. The male calyx is quinque-dentate and monophyllous; the corolla monopetalous; the five filaments are united in an erect tube. In the female flower the pistillum is cylindrical and erect; the stigma large, peltated, and reflected; the pericarpium large, oval, unequal, fleshy, and unilocular, containing one seed, which is smooth, compressed, and fleshy. Of this there is only one species, viz. the *Edulis*, or Chocho vine.—This is cultivated and grows very luxuriantly in many places in Jamaica. The vines run and spread very much. The fruit is boiled, and served up at table by

way of greens; and the root of the old vine is some-
what like a yam (*Dioscorea*), and on being boiled or
roasted tastes farinaceous and wholesome.

SECKENDORF (Guy Lewis de), a very learned German, descended from an ancient and noble family, was born at Aurach in Franconia in 1626. He was a good linguist, learned in law, history, and divinity; and is said to have been a tolerable painter and engraver. He was honourably employed by several of the German princes; and died counsellor of state to Frederic III. elector of Brandenburg, and chancellor of the university of Halle, in 1692. He wrote many books, particularly "A history and defence of the Lutheran religion," 2 vols folio, Frankfort, 1662, in Latin.

SECKER (Thomas), a learned and respectable prelate of the church of England, was born, in 1693, at a village called *Sibthorp*, in the vale of Belvoir, Nottinghamshire. His father was a Protestant dissenter, a pious, virtuous, and sensible man; who having a small paternal fortune, followed no profession. His mother was the daughter of Mr George Brough, a substantial gentleman farmer of Shelton in the same county. He received his education at several private schools and academies in the country, being obliged, by various accidents, to change his masters frequently.

Notwithstanding this disadvantage, he had at the age of 19 not only made a considerable progress in Greek and Latin, and read the best writers in both languages, but had acquired a knowledge of French, Hebrew, Chaldee, and Syriac; had learned geography, logic, algebra, geometry, conic sections, and gone through a course of lectures on Jewish antiquities and other points, preparatory to the critical study of the Bible. He had been destined by his father for orders among the Dissenters. With this view, during the latter years of his education, his studies were chiefly turned towards divinity, in which he had made such quick advances, that by the time he was 23 he had carefully read over a great part of the Scriptures, particularly the New Testament, in the original, and the best comments upon it; Eusebius's Ecclesiastical History, The Apostolical Fathers, Whiston's Primitive Christianity, and the principal writers for and against Ministerial and Lay Conformity.—But though the result of these inquiries was a well-grounded belief of the Christian revelation, yet not being at that time able to decide on some abstruse speculative doctrines, nor to determine absolutely what communion he should embrace; he resolved, like a wise and honest man, to pursue some profession, which should leave him at liberty to weigh those things more maturely in his thoughts, and not oblige him to declare or teach publicly opinions which were not yet thoroughly settled in his own mind.

In 1716, therefore, he applied himself to the study of physic, and after gaining all the medical knowledge he could,

(c) All this is said of the Burgher Seceders; but we hope it is equally true of those who are styled Anti-Burghers. There are indeed some clauses in the Covenant which they swear to maintain, that seem not, at first view, very friendly to civil subordination; but let not those who entertain any apprehension on this account, forget that one of the most useful defences of the British constitution, occasioned by the late factious spirit of democratic innovation, came from the pen of Dr Young the Antiburgher minister at Hawick. See *Young's Essays*.

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could, by reading the usual preparatory books, and attending the best lectures during that and the following winter in London, in order to improve himself farther, in January 1718-19 he went to Paris. There he lodged in the same house with the famous anatomist Mr Winslow, whose lectures he attended, as he did those of the materia medica, chemistry, and botany, at the king's gardens. The operations of surgery he saw at the *Hôtel Dieu*, and attended also for some time M. Gregoire, the accoucheur, but without any design of ever practising that or any other branch of surgery. Here he became acquainted with Mr Martin Benson, afterwards bishop of Gloucester, one of the most agreeable and virtuous men of his time; with whom he quickly became much connected, and not many years after was united to him by the strictest bonds of affinity as well as affection.

During the whole of Mr Secker's continuance at Paris, he kept up a constant correspondence with Mr Joseph Butler, afterwards bishop of Durham, with whom he became acquainted at the academy of one Mr Jones, kept first at Gloucester, and afterward at Tewksbury. Mr Butler having been appointed preacher at the Rolls on the recommendation of Dr Clarke and Mr Edward Talbot, son to bishop Talbot, he now took occasion to mention his friend Mr Secker, without Secker's knowledge, to Mr Talbot, who promised, in case he chose to take orders in the church of England, to engage the bishop his father to provide for him. This was communicated to Mr Secker in a letter from Mr Butler about the beginning of May 1720. He had not at that time come to any resolution of quitting the study of physic; but he began to foresee many obstacles to his pursuing that profession; and having never discontinued his application to theology, his former difficulties both with regard to conformity and some other doubtful points had gradually lessened, as his judgment became stronger, and his reading and knowledge more extensive. It appears also from two of his letters still in being, written from Paris to a friend in England, (both of them prior to the date of Mr Butler's above-mentioned), that he was greatly dissatisfied with the divisions and disturbances which at that particular period prevailed among the Dissenters.

In this state of mind Mr Butler's unexpected proposal found him; which he was therefore very well disposed to take into consideration; and after deliberating on the subject of such a change for upwards of two months, he resolved at length to embrace the offer, and for that purpose quitted France about the beginning of August 1720.

On his arrival in England, he was introduced to Mr Talbot, with whom he cultivated a close acquaintance; but it was unfortunately of very short duration; for in the month of December that gentleman died of the small-pox. This was a great shock to all his friends, who had justly conceived the highest expectations of him; but especially to an amiable lady whom he had lately married, and who was very near sinking under so sudden and grievous a stroke. Mr Secker, beside sharing largely in the common grief, had peculiar reason to lament an accident that seemed to put an end to all his hopes; but he had taken his resolution, and he determined to persevere. It was some encouragement to him to find that Mr Talbot had, on his death-bed,

recommended him, together with Mr Benson and Mr Butler, to his father's notice. Thus did that excellent young man (for he was but 29 when he died), by his nice discernment of characters, and his considerate good nature, provide most effectually, in a few solemn moments, for the welfare of that church from which he himself was so prematurely snatched away; and at the same time raised up, when he least thought of it, the truest friend and protector to his wife and unborn daughter; who afterwards found in Mr Secker all that tender care and assistance which they could have hoped for from the nearest relation.

It being judged necessary by Mr Secker's friends that he should have a degree at Oxford; and having been informed, that if he should previously take the degree of Doctor in Physic at Leyden, it would probably help him in obtaining the other, he went over and took his degree there in March 1721: and, as part of his exercise for it, he composed and printed a dissertation *de Medicina Statica*, which is still extant, and is thought by the gentlemen of that profession to be a sensible and learned performance.

In April the same year, he entered himself a gentleman commoner of Exeter college, Oxford; after which he obtained the degree of Bachelor of Arts, in consequence of the chancellor's recommendatory letter to the convocation.

He now spent a considerable part of his time in London, where he quickly gained the esteem of some of the most learned and ingenious men of those days, particularly of Dr Clarke, rector of St James's, and the celebrated dean Berkeley, afterwards bishop of Cloyne, with whom he every day became more delighted, and more closely connected. He paid frequent visits of gratitude and friendship to Mrs Talbot, widow of Mr Edward Talbot, by whom she had a daughter five months after his decease. With her lived Mrs Catharine Benson, sister to bishop Benson, whom in many respects she greatly resembled. She had been for several years Mrs Talbot's inseparable companion, and was of unspeakable service to her at the time of her husband's death, by exerting all her courage, activity, and good sense (of which she possessed a large share), to support her friend under so great an affliction, and by afterwards attending her sickly infant with the utmost care and tenderness, to which, under Providence, was owing the preservation of a very valuable life.

Bishop Talbot being in 1721 appointed to the see of Durham, Mr Secker was in 1722 ordained deacon by him in St James's church, and priest not long after in the same place, where he preached his first sermon March 28. 1723. The bishop's domestic chaplain at that time was Dr Rundle, a man of warm fancy and very brilliant conversation, but apt sometimes to be carried by the vivacity of his wit into indiscreet and ludicrous expressions, which created him enemies, and, on one occasion, produced disagreeable consequences.—With him Mr Secker was soon after associated in the bishop's family, and both taken down by his lordship to Durham in July 1723.

In the following year the bishop gave Mr Secker the rectory of Houghton-le-Spring. This preferment putting it in his power to fix himself in the world, in a manner agreeable to his inclinations, he soon after made a proposal of marriage to Mrs Benson; which being accepted,

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About this time bishop Talbot also gave preferments to Mr Butler and Mr Benson, whose rise and progress in the church is here interwoven with the history of Mr Secker. In the winter of 1725-6, Mr Butler first published his incomparable sermons; on which, as Dr Beilby Porteous and Dr Stinton inform us, Mr Secker took pains to render the style more familiar, and the author's meaning more obvious: yet they were at last by many called obscure. Mr Secker gave his friend the same assistance in that noble work the *Analogy of Religion*, &c.

He now gave up all the time he possibly could to his residence at Houghton, applying himself with alacrity to all the duties of a country clergyman, and supporting that useful and respectable character throughout with the strictest propriety. He omitted nothing which he thought would be of use to the souls and bodies of the people entrusted to his care. He brought down his conversation and his sermons to the level of their understandings; he visited them in private, he catechised the young and ignorant, he received his country neighbours and tenants very kindly and hospitably, and was of great service to the poorer sort of them by his skill in physic, which was the only use he ever made of it. Though this place was in a very remote part of the world, yet the solitude of it perfectly suited his studious disposition, and the income arising from it bounded his ambition. Here he would have been content to live and die; here, as he has often been heard to declare, he spent some of the happiest hours of his life; and it was no thought or choice of his own that removed him to an higher and more public sphere; but Mrs Secker's health, which now began to be very bad, and was thought to be injured by the dampness of the situation, obliged him to think of exchanging it for a more healthy one. Accordingly, an exchange was made through the friendly interposition of Mr Benson (who generously sacrificed his own interest on this occasion, by relinquishing a prebend of his own to serve his friend) with Dr Finney, prebendary of Durham, and rector of Ryton; and Mr Secker was instituted to Ryton and the prebend June 3. 1727. For the two following years he lived chiefly at Durham, going every week to officiate at Ryton, and spending there two or three months together in the summer.

In July 1732 he was appointed chaplain to the king; for which favour he was indebted to Dr Sherlock, who having heard him preach at Bath, had conceived the highest opinion of his abilities, and thought them well worthy of being brought forward into public notice. From that time an intimacy commenced between them, and he received from that great prelate many solid proofs of esteem and friendship.

His month of waiting at St James's happened to be August, and on Sunday the 27th of that month he preached before the queen, the king being then abroad. A few days after, her majesty sent for him into her closet, and held a long and gracious conversation with him; in the course of which he took an opportunity of mentioning to her his friend Mr Butler. He also, not long after this, on Mr Talbot's being made lord chancellor,

found means to have Mr Butler effectually recommended to him for his chaplain. The queen also appointed him clerk of her closet; from whence he rose, as his talents became more known, to those high dignities which he afterwards attained.

Mr Secker now began to have a public character, and stood high in the estimation of those who were allowed to be the best judges of merit: he had already given proofs of abilities that plainly indicated the eminence to which he must one day rise, as a preacher and a divine; and it was not long before an opportunity offered of placing him in an advantageous point of view. Dr Tyrwhit, who succeeded Dr Clarke as rector of St James's in 1729, found that preaching in so large a church endangered his health. Bishop Gibson, therefore, his father-in-law, proposed to the crown that he should be made residentiary of St Paul's, and that Mr Secker should succeed him in the rectory. This arrangement was so acceptable to those in power, that it took place without any difficulty. Mr Secker was instituted rector the 18th of May 1733; and in the beginning of July went to Oxford to take his degree of Doctor of Laws, not being of sufficient standing for that of divinity. On this occasion it was that he preached his celebrated Aet Sermon, on the advantages and duties of academical education, which was universally allowed to be a masterpiece of sound reasoning and just composition: it was printed at the desire of the heads of houses, and quickly passed through several editions. It is now to be found in the second collection of *Occasional Sermons*, published by himself in 1766.

It was thought that the reputation he acquired by this sermon, contributed not a little toward that promotion which very soon followed its publication. For in December 1734, he received a very unexpected notice from bishop Gibson, that the king had fixed on him to be bishop of Bristol. Dr Benson was about the same time appointed to the see of Gloucester, as was Dr Fleming to that of Carlisle; and the three new bishops were all consecrated together in Lambeth Chapel, Jan. 19. 1734-5, the consecration-sermon being preached by Dr Thomas, afterwards bishop of Winchester.

The honours to which Dr Secker was thus raised in the prime of life did not in the least abate his diligence and attention to business; for which, indeed, there was now more occasion than ever. His learned biographers, Messrs Porteous and Stinton, now relate the manner in which he set about the visitation of his diocese, and the ceremony of confirmation, which he performed in a great number of places; he also preached in several churches, sometimes twice a-day. The affairs of his parish of St James's being likewise in great disorder, he took extraordinary pains to regulate and adjust every thing, particularly the management of the poor; and thus became of signal service to his parishioners, even in a temporal view. But, say our authors, "it was their spiritual welfare which engaged, as it ought to do, his chief attention. As far as the circumstances of the times, and the populousness of that part of the metropolis allowed, he omitted not even those private admonitions and personal applications which are often attended with the happiest effects. He allowed out of his own income a salary for reading early and late prayers, which had formerly been paid out of the offertory money. He held a confirmation once every year, and examined

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amined the candidates several weeks, before in the vestry, and gave them religious tracts, which he also distributed at other times very liberally to those that needed them. He drew up, for the use of his parishioners, that admirable course of *Lectures on the Church Catechism* which hath been lately published, and not only read them once every week on the usual days, but also every Sunday evening, either at the church or one of the chapels belonging to it."

The sermons which at the same time, we are told, he set himself to compose, "were truly excellent and original. His faculties were now in their full vigour, and he had an audience to speak before that rendered the utmost exertion of them necessary. He did not, however, seek to gratify the higher part, by amusing them with refined speculations, or ingenious essays, unintelligible to the lower part, and unprofitable to both; but he laid before them all, with equal freedom and plainness, the great Christian duties belonging to their respective stations, and reproved the follies and vices of every rank among them, without distinction or palliation. He studied human nature thoroughly in all its various forms, and knew what sort of arguments would have most weight with each class of men. He brought the subject home to their bosoms, and did not seem to be merely saying useful things in their presence, but addressing himself personally to every one of them. Few ever possessed, in a higher degree, the rare talent of touching on the most delicate subjects with the nicest propriety and decorum, of saying the most familiar things without being low, the plainest without being feeble, the boldest without giving offence. He could descend with such singular ease and felicity into the minutest concerns of common life, could lay open with so much address the various workings, artifices, and evasions of the human mind, that his audience often thought their own particular cases alluded to, and heard with surprise their private sentiments and feelings, their ways of reasoning and principles of acting, exactly stated and described. His preaching was, at the same time, highly rational, and truly evangelical. He explained with perspicuity, he asserted with dignity, the peculiar characteristic doctrines of the gospel. He inculcated the utility, the necessity of them, not merely as speculative truths, but as actual instruments of moral goodness, tending to purify the hearts and regulate the lives of men; and thus, by God's gracious appointment, as well as by the inseparable connection between true faith and right practice, leading them to salvation.

"These important truths he taught with the authority, the tenderness, the familiarity, of a parent instructing his children. Though he neither possessed nor affected the artificial eloquence of an orator who wants to amuse or to mislead, yet he had that of an honest man who wants to convince, of a Christian preacher who wants to reform and to save those that hear him. Solid argument, manly sense, useful directions, short, nervous, striking sentences, awakening questions, frequent and pertinent applications of scripture; all these following each other in quick succession, and coming evidently from the speaker's heart, enforced by his elocution, his figure, his action, and above all by the corresponding sanctity of his example, stamped conviction on the minds of his hearers, and sent them home with impressions not easy to be effaced. It will readily be

imagined that with these powers he quickly became one of the most admired and popular preachers of his time."

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In 1737 he succeeded to the see of Oxford, on the promotion of Dr Potter to that of Canterbury, then vacant by the death of Archbishop Wake.

In the spring of 1748, Mrs Secker died of the gout in her stomach. She was a woman of great sense and merit, but of a weak and sickly constitution. The bishop's affection and tenderness for her was suited to his character. In 1750, he was installed dean of St Paul's, for which he gave in exchange the rectory of St James's and his prebend of Durham. "It was no wonder (say our authors) that, after presiding over so extensive and populous a parish for upwards of 17 years, he should willingly consent to be released from a burden which began now to grow too great for his strength. When he preached his farewell sermon, the whole audience melted into tears: he was followed with the prayers and good wishes of those whom every honest man would be most ambitious to please; and there are numbers still living who retain a strong and grateful remembrance of his incessant and tender solicitude for their welfare. Having now more leisure both to prosecute his own studies and to encourage those of others, he gave Dr Church considerable assistance in his *First and Second Vindication of the Miraculous Powers*, &c. against Dr Middleton, and he was of equal use to him in his *Analysis of Lord Bolingbroke's Works*. About the same time began the late Archdeacon Sharp's controversy with the followers of Mr Hutchinson, which was carried on to the end of the year 1755." Bishop Secker, we are told, read over all Dr Sharp's papers, amounting to three volumes 8vo, and corrected and improved them throughout. But the ease which this late change of situation gave him was soon disturbed by a heavy and unexpected stroke, the loss of his three friends, Bishops Butler, Benson, and Berkeley, who were all cut off within the space of one year.

Our authors next give an account of the part which Dr Secker bore, in the House of Lords, in respect to the famous repeal of the Jew bill; for which the duke of Newcastle moved, and was seconded by the Bishop, in a speech which, we are told, was remarkably well received. At length his distinguished merit prevailed over all the political obstacles to his advancement, and placed him, without any efforts or application of his own, in that important station which he had shown himself so well qualified to adorn. On the death of archbishop Hutton, he was promoted to the see of Canterbury, and was confirmed at Bow-church, April 21. 1758; on which occasion our authors observe, that in accepting this high and burdensome station, Dr Secker acted on that principle which influenced him through life; that he sacrificed his own ease and comfort to considerations of public utility; that the mere secular advantages of grandeur were objects below his ambition; and were, as he knew and felt, but poor compensations for the anxiety and difficulties attending them. He had never once through his whole life asked preferment for himself, nor shown any unbecoming eagerness for it; and the use he made of his newly acquired dignity very clearly showed, that rank, and wealth, and power, had in no other light any charms for him, than as they enlarged the sphere of his active and industrious benevolence.

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He sought out and encouraged men of real genius or extensive knowledge; he expended 300 l. in arranging and improving the manuscript library at Lambeth; and observing with concern, that the library of printed books in that palace had received no additions since the time of Archbishop Tennison, he made it his business to collect books in all languages from most parts of Europe at a very great expence, with a view of supplying that chasm; which he accordingly did, by leaving them to the library at his death, and thereby rendered that collection one of the noblest and most useful in the kingdom.

All designs and institutions which tended to advance good morals and true religion, he patronized with zeal and generosity: he contributed largely to the maintenance of schools for the poor; to rebuilding or repairing parsonage houses and places of worship; and gave no less than 600 l. towards erecting a chapel in the parish of Lambeth. To the society for promoting Christian knowledge he was a liberal benefactor; and to that for propagating the gospel in foreign parts, of which he was the president, he paid much attention; was constant at all the meetings of its members, even sometimes when his health would but ill permit, and superintended their deliberations with consummate prudence and temper.

Whenever any publications came to his knowledge that were manifestly calculated to corrupt good morals, or subvert the foundations of Christianity, he did his utmost to stop the circulation of them; yet the wretched authors themselves he was so far from wishing to treat with any undue rigour, that he has more than once extended his bounty to them in distress. And when their writings could not properly be suppressed (as was too often the case) by lawful authority, he engaged men of abilities to answer them, and rewarded them for their trouble. His attention was everywhere. Even the falsehoods and misrepresentation of writers in the newspapers, on religious or ecclesiastical subjects, he generally took care to have contradicted; and when they seemed likely to injure, in any material degree, the cause of virtue and religion, or the reputation of eminent and worthy men, he would sometimes take the trouble of answering them himself. One instance of this kind, which does him honour, and deserves mention, was his defence of Bishop Butler, who, in a pamphlet published in 1767, was accused of having died a Papist. The conduct which he observed towards the several divisions and denominations of Christians in this kingdom was such as showed his way of thinking to be truly liberal and catholic. The dangerous spirit of popery, indeed, he thought should always be kept under proper legal restraints, on account of its natural opposition not only to the religious but the civil rights of mankind. He therefore observed its movements with care, and exhorted his clergy to do the same, especially those who were situated in the midst of Roman Catholic families; against whose influence they were charged to be upon their guard, and were furnished with proper books or

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instructions for that purpose. He took all fit opportunities of combating the errors of the church of Rome in his own writings (A); and the best answers that were published to some of the late bold apologies for popery were written at his instance, and under his direction.

With the Dissenters his Grace was sincerely desirous of cultivating a good understanding. He considered them, in general, as a conscientious and valuable class of men. With some of the most eminent of them, Watts, Doddridge, Leland, Chandler, Lardner, he maintained an intercourse of friendship or civility. By the most candid and considerate part of them he was highly revered and esteemed; and to such among them as needed help he showed no less kindness and liberality than to those of his own communion.

Nor was his concern for the Protestant cause confined to his own country. He was well known as the great patron and protector of it in various parts of Europe; from whence he had frequent applications for assistance, which never failed of being favourably received. To several foreign Protestants he allowed pensions, to others he gave occasional relief, and to some of their universities was an annual benefactor.

In public affairs, his Grace acted the part of an honest citizen, and a worthy member of the British legislature. From his first entrance into the House of Peers, his parliamentary conduct was uniformly upright and noble. He kept equally clear from the extremes of factious petulance and servile dependence; never wantonly thwarting administration from motives of party zeal or private pique, or personal attachment, or a passion for popularity; nor yet going every length with every minister from views of interest or ambition. He admired and loved the constitution of his country, and wished to preserve it unaltered and unimpaired. So long as a due regard to this was maintained, he thought it his duty to support the measures of government; but whenever they were evidently inconsistent with the public welfare, he opposed them with freedom and firmness. Yet his opposition was always tempered with the utmost fidelity, respect, and decency, to the excellent prince upon the throne; and the most candid allowances for the unavoidable errors and infirmities even of the very best ministers, and the peculiarly difficult situation of those who govern a free and high-spirited people. He seldom spoke in parliament, except where the interests of religion and virtue seemed to require it; but whenever he did, he spoke with propriety and strength, and was heard with attention and deference. Though he never attached himself blindly to any set of men, yet his chief political connections were with the late Duke of Newcastle and Lord Chancellor Hardwicke. To these he principally owed his advancement; and he had the good fortune to live long enough to show his gratitude to them or their descendants.

During more than ten years that Dr Secker enjoyed the see of Canterbury, he resided constantly at his archiepiscopal house at Lambeth. A few months before his death, the dreadful pains he felt had compelled

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(A) See particularly his sermons on the rebellion in 1745; on the Protestant working schools in Ireland; on the 5th of November; and a great number of occasional passages to the same purpose, in various parts of his lectures, sermons, and other works.

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him to think of trying the Bath waters; but that design was stopped by the fatal accident which put an end to his life.

His Grace had been for many years subject to the gout, which, in the latter part of his life, returned with more frequency and violence, and did not go off in a regular manner, but left the parts affected for a long time very weak, and was succeeded by pains in different parts of the body. About a year and a half before he died, after a fit of the gout, he was attacked with a pain in the arm, near the shoulder, which having continued about 12 months, a similar pain seized the upper and outer part of the opposite thigh, and the arm soon became easier. This was much more grievous than the former, as it quickly disabled him from walking, and kept him in almost continual torment, except when he was in a reclining position. During this time he had two or three fits of the gout; but neither the gout nor the medicines alleviated these pains, which, with the want of exercise, brought him into a general bad habit of body.

On Saturday July 30. 1768, he was seized, as he sat at dinner, with a sickness at his stomach. He recovered before night; but the next evening, while his physicians were attending, and his servants raising him on his couch, he suddenly cried out that his thigh-bone was broken. The shock was so violent, that the servants perceived the couch to shake under him, and the pain so acute and unexpected, that it overcame the firmness he so remarkably possessed. He lay for some time in great agonies; but when the surgeons arrived, and discovered with certainty that the bone was broken, he was perfectly resigned, and never afterwards asked a question about the event. A fever soon ensued. On Tuesday he became lethargic, and continued so till about five o'clock on Wednesday afternoon, when he expired with great calmness, in the 75th year of his age.

On examination, the thigh-bone was found to be carious about four inches in length, and at nearly the same distance from its head. The disease took its rise from the internal part of the bone, and had so entirely destroyed its substance, that nothing remained at the part where it was broken but a portion of its outward integument; and even this had many perforations, one of which was large enough to admit two fingers, and was filled with a fungous substance arising from within the bone. There was no appearance of matter about the caries, and the surrounding parts were in a sound state. It was apparent that the torture which he underwent during the gradual corrosion of this bone must have been inexpressibly great. Out of tenderness to his family he seldom made any complaints to them, but to his physicians he frequently declared his pains were so excruciating, that unless some relief could be procured he thought it would be impossible for human nature to support them long. Yet he bore them for upwards of six months with astonishing patience and fortitude; sat up generally the greater part of the day, admitted his particular friends to see him, mixed with his family at the usual hours, sometimes with his usual cheerfulness; and, except some very slight defects of memory, retained all his faculties and senses in their full vigour till within a few days of his death. He was buried, pursuant to his own directions, in a covered passage, lead-

ing from a private door of the palace to the north door of Lambeth church; and he forbade any monument or epitaph to be placed over him.

By his will he appointed the Rev. Dr Daniel Burton, canon of Christ-church, and Mrs Catherine Talbot, already mentioned in the course of these memoirs, his executors; and left 13,000 l. in trust to the Drs Porteous and Stinton, his chaplains; to pay the interest thereof to Mrs Talbot and her daughter during their joint lives, or the life of the survivor; and after the decease of both those ladies, 11,000 l. of the said 13,000 l. are to be transferred to charitable purposes; amongst which are 1000 l. to the Society for the Propagation of the Gospel, and 1000 l. to the same society for a bishop or bishops in the king's dominions in America.

The following description is given of his person: He was tall and comely; in the early part of his life slender, and rather consumptive; but as he advanced in years his constitution gained strength, and his size increased, yet never to a degree of corpulency that was disproportionate or troublesome.

The dignity of his form corresponded with the greatness of his mind, and inspired at all times respect and awe; but peculiarly so when he was engaged in any of the more solemn functions of religion, into which he entered with such devout earnestness and warmth, with so just a consciousness of the place he was in, and the business he was about, as seemed to raise him above himself, and added new life and spirit to the natural gracefulness of his appearance.

His countenance was open, ingenuous, and expressive of every thing right. It varied easily with his spirits and his feelings, so as to be a faithful interpreter of his mind, which was incapable of the least dissimulation. It could speak dejection, and, on occasion, anger, very strongly; but when it meant to show pleasure or approbation, it softened into a most gracious smile, and diffused over all his features the most benevolent and reviving complacency that can be imagined.

SECOMIÆ, in natural history, the name of a genus of fossils of the class of septariæ; the characters of which are, That they are bodies of a dusky hue; divided, by septa or partitions of a sparry matter, into several more or less regular portions; of a moderately firm texture; not giving fire with steel; but fermenting with acid menstrua, and easily calcining. The septariæ of this genus are of all others the most common, and are what have been known by the little expressive or mistaken names of the waxen vein, or ludus Helmontii. We have many species of these bodies common among us. Of the whitish or brownish, we have thirteen; of the yellowish five; and of the ferruginous ones four.

SECOND, in geometry, chronology, &c. the 60th part of a prime or minute, whether of a degree or of an hour.

SECOND, in music, one of the musical intervals; being only the difference between any sound and the next nearest sound, whether above or below it.

SECOND Major, in music. See INTERVAL.

SECOND Minor, in music. See INTERVAL.

SECOND Sight, in Erse called *Taisch*, is a mode of seeing superadded to that which nature generally bestows. This gift or faculty, which is neither voluntary

nor

Secker

Second.

Second. nor constant, is in general rather troublesome than agreeable to the possessors of it, who are chiefly found among the inhabitants of the Highlands of Scotland, those of the Western Isles, of the Isle of Man, and of Ireland. It is an impression made either by the mind upon the eye, or by the eye upon the mind, by which things distant or future are perceived, and seen as if they were present. A man on a journey far from home falls from his horse; another, who is perhaps at work about the house, sees him bleeding on the ground, commonly with a landscape of the place where the accident befalls him. Another seer, driving home his cattle, or wandering in idleness, or musing in the sunshine, is suddenly surprised by the appearance of a bridal ceremony, or funeral procession, and counts the mourners or attendants, of whom, if he knows them, he relates the names; if he knows them not, he can describe the dresses. Things distant are seen at the instant when they happen.

Of things future, Johnson says that he knows no rule pretended to for determining the time between the sight and the event; but we are informed by Mr Grose, that in general the time of accomplishment bears some relation to the time of the day in which the impressions are received. Thus visions seen early in the morning (which seldom happens) will be much sooner accomplished than those appearing at noon; and those seen at noon will take place in a much shorter time than those happening at night; sometimes the accomplishment of the last does not fall out within a year or more.

These visions are not confined to solemn or important events; nor is it true, as is commonly reported, that to the second sight nothing is presented but phantoms of evil. The future visit of a mountebank, or piper; a plentiful draught of fish; the arrival of common travellers; or, if possible, still more trifling matters than these, — are foreseen by the seers. A gentleman told Dr Johnson, that when he had once gone far from his own island one of his labouring servants predicted his return, and described the livery of his attendant, which he had never worn at home; and which had been, without any previous design, occasionally given him.

As many men eminent for science and literature have admitted the reality of this apparently useless gift, we shall, without interposing our own opinion, give the reflections of two of the first characters of the age upon it, and leave our readers to form their own judgment. By Dr Beattie of Aberdeen it is thus accounted for.

The Highlands of Scotland are a picturesque but a melancholy country. Long tracts of mountainous desert, covered with dark heath, and often obscured by misty weather; narrow valleys, thinly inhabited, and bounded by precipices resounding with the fall of torrents; a soil so rugged, and a climate so dreary, as in many parts to admit neither the amusements of pasturage nor the labours of agriculture; the mournful dashing of waves along the friths and lakes that intersect the country; the portentous noises which every change of the wind and every increased diminution of

the waters is apt to raise in a lonely region full of echoes and rocks and caverns; the grotesque and ghastly appearance of such a landscape by the light of the moon: objects like these diffuse a gloom over the fancy, which may be compatible enough with occasional and social merriment, but cannot fail to tincture the thoughts of a native in the hour of silence and solitude. If these people, notwithstanding their reformation in religion, and more frequent intercourse with strangers, do still retain many of their old superstitions, we need not doubt but in former times they must have been much more enslaved to the horrors of imagination, when beset with the bugbears of Popery and Paganism. Most of their superstitions are of a melancholy cast. That of *second sight*, by which some are still supposed to be haunted, is considered by themselves as a misfortune, on account of the many dreadful images it is said to obtrude upon the fancy. It is said that some of the Alpine regions do likewise lay claim to a sort of second sight. Nor is it wonderful, that persons of a lively imagination, immured in deep solitude, and surrounded with the stupendous scenery of clouds, precipices, and torrents, should dream (even when they think themselves awake) of those few striking ideas with which their lonely lives are diversified: of corpses, funeral processions, and other subjects of terror; or of marriages, and the arrival of strangers, and such like matters of more agreeable curiosity.

Let it be observed also, that the ancient Highlanders of Scotland had hardly any other way of supporting themselves than by hunting, fishing, or war; professions that are continually exposed to fatal accidents. And hence, no doubt, additional horrors would often haunt their solitude, and a deeper gloom overshadow the imagination even of the hardiest native.

A sufficient evidence can hardly be found for the reality of the *second sight*, or at least of what is commonly understood by that term. A treatise on the subject was published in the year 1762, in which many tales were told of persons whom the author believed to have been favoured, or haunted, with these illuminations; but most of the tales were trifling and ridiculous: and the whole work betrayed, on the part of the compiler, such extreme credulity, as could not fail to prejudice many readers against his system.

That any of these visionaries are apt to be swayed in their declarations by sinister views, we will not say; but this may be said with confidence, that none but ignorant people pretend to be gifted in this way. And in them it may be nothing more, perhaps, than short fits of sudden sleep or drowsiness, attended with lively dreams, and arising from some bodily disorder, the effect of idleness, low spirits, or a gloomy imagination. For it is admitted, even by the most credulous Highlanders, that as knowledge and industry are propagated in their country, the second sight disappears in proportion; and nobody ever laid claim to the faculty who was much employed in the intercourse of social life (A).

G g 2

Nor

(A) This, however, is denied by Johnson, who affirms that the Islanders of all degrees, whether of rank or understanding, universally admit it except the ministers, who, according to him, reject it, in consequence of a system, against conviction. He affirms, too, that in 1773 there was in the Hebrides a second-sighted gentleman, who complained of the terrors to which he was exposed.

Second.

Nor is it at all extraordinary, that one should have the appearance of being awake, and should even think one's self so, during those fits of dozing; that they should come on suddenly, and while one is engaged in some business. The same thing happens to persons much fatigued, or long kept awake, who frequently fall asleep for a moment, or for a long space, while they are standing, or walking, or riding on horseback. Add but a lively dream to this slumber, and (which is the frequent effect of disease) take away the consciousness of having been asleep, and a superstitious man may easily mistake his dream for a waking vision; which, however, is soon forgotten when no subsequent occurrence recalls it to his memory; but which, if it shall be thought to resemble any future event, exalts the poor dreamer into a Highland prophet. This conceit makes him more reclusive and more melancholy than ever; and so feeds his disease, and multiplies his visions: which, if they are not dissipated by business or society, may continue to haunt him as long as he lives; and which, in their progress through the neighbourhood, receive some new tinctures of the marvellous from every mouth that promotes their circulation. As to the prophetic nature of this second sight, it cannot be admitted at all. That the Deity should work a miracle in order to give intimation of the frivolous things that these tales are made up of, the arrival of a stranger, the nailing of a coffin, or the colour of a suit of clothes; and that these intimations should be given for no end, and to those persons only who are idle and solitary, who speak Gaelic, or who live among mountains and deserts—is like nothing in nature or providence that we are acquainted with; and must therefore, unless it were confirmed by satisfactory proof (which is not the case), be rejected as absurd and incredible.

These visions, such as they are, may reasonably enough be ascribed to a disordered fancy. And that in them, as well as in our ordinary dreams, certain appearances should, on some rare occasions, resemble certain events, is to be expected from the laws of chance; and seems to have in it nothing more marvellous or supernatural, than that the parrot, who deals out his scurrilities at random, should sometimes happen to salute the passenger by his right appellation.

To the confidence of these objections Dr Johnson replies, that by presuming to determine what is fit, and what is beneficial, they presuppose more knowledge of the universal system than man has attained; and therefore depend upon principles too complicated and extensive for our comprehension; and that there can be no security in the consequence when the premises are not understood; that the second sight is only wonderful because it is rare, for, considered in itself, it involves no more difficulty than dreams, or perhaps than the regular exercise of the cogitative faculty; that a general opinion of communicative impulses, or visionary representations, has prevailed in all ages and all nations; that particular instances have been given with such evidence, as neither Bacon nor Bayle has been able to resist; that sudden impressions, which the event has verified, have been felt by more than own or publish them; that the second sight of the Hebrides implies only the local frequency of a power, which is nowhere totally unknown; and that where we are unable to decide by antecedent reason, we must be content to yield to the force of tes-

timony. By pretension to second sight, no profit was ever sought or gained. It is an involuntary affection, in which neither hope nor fear are known to have any part. Those who profess to feel it do not boast of it as a privilege, nor are considered by others as advantageously distinguished. They have no temptation to feign, and their hearers have no motive to encourage the imposture.

SECOND Terms, in algebra, those where the unknown quantity has a degree of power less than it has in the term where it is raised to the highest. The art of throwing these second terms out of an equation, that is, of forming a new equation where they have no place, is one of the most ingenious and useful inventions in all algebra.

SECONDARY, in general, something that acts as second or in subordination to another.

SECONDARY, or *Secundary*, an officer who acts as second or next to the chief officer. Such are the secondaries of the courts of king's bench and common pleas; the secondaries of the compters, who are next the sheriffs of London in each of the two compters; two secondaries of the pipe; secondaries to the remembrancers, &c.

SECONDARY Circles of the Ecliptic are circles of longitude of the stars; or circles which, passing through the poles of the ecliptic, are at right angles to the ecliptic. See *CIRCLES of Latitude*.

SECONDARY Qualities of Bodies. See *METAPHYSICS*, n° 153.

SECONDAT. See *MONTESQUIEU*.

SECRETARIES BIRD, the falco serpentarius and sagittarius of Linnæus, but classed by Latham under the genus *VULTUR*; which see.

SECRETARY, an officer who, by his master's orders, writes letters, dispatches, and other instruments, which he renders authentic by his signet. Of these there are several kinds; as, 1. Secretaries of state, who are officers that have under their management and direction the most important affairs of the kingdom, and are obliged constantly to attend on the king: they receive and dispatch whatever comes to their hands, either from the crown, the church, the army, private grants, pardons, dispensations, &c. as likewise petitions to the sovereign, which, when read, are returned to them; all which they dispatch according to the king's direction. They have authority to commit persons for treason, and other offences against the state, as conservators of the peace at common law, or as justices of the peace throughout the kingdom. They are members of the privy-council, which is seldom or never held without one of them being present. As to the business and correspondence in all parts of this kingdom, it is managed by either of the secretaries without any distinction; but with respect to foreign affairs, the business is divided into two provinces or departments, the southern and the northern, comprehending all the kingdoms and states that have any intercourse with Great Britain; each secretary receiving all letters and addresses from, and making all dispatches to, the several princes and states comprehended in his province. Ireland and the Plantations are under the direction of the elder secretary, who has the southern province, which also comprehends France, Italy, Switzerland, Spain, Portugal, and Turkey; the northern province includes the Low Countries,

Second
II
Secretary.

Secretion
||
Sector.

tries, Germany, Denmark, Sweden, Poland, and Muscovy. Each of the secretaries has an apartment in all the royal houses, both for their own accommodation and their officers; they have also a table at the king's charge, or else board-wages. The two secretaries for Britain have each two under secretaries, and one chief clerk; with an uncertain number of other clerks and translators, all wholly depending on them. To the secretaries of state belong the custody of that seal properly called the *signet*, and the direction of two other offices, one called the *paper-office*, and the other the *signet-office*. In addition to these, there is at present (1795) a secretary for the war department, whose office must be temporary. 2. Secretary of an embassy, a person attending an ambassador, for writing dispatches relating to the negotiation. There is a great difference between the secretary of an embassy and the ambassador's secretary; the last being a domestic or menial of the ambassador, and the first a servant or minister of the prince. 3. The secretary of war, an officer of the war-office, who has two chief clerks under him, the last of which is the secretary's messenger. There are also secretaries in most of the other offices.

SECRETION, in the animal œconomy. See *PHYSIOLOGY*, sect. VI.

SECT, a collective term, comprehending all such as follow the doctrines and opinions of some famous divine, philosopher, &c.

SECTION, in general, denotes a part of a divided thing, or the division itself. Such, particularly, are the subdivisions of a chapter; called also *paragraphs* and *articles*: the mark of a section is §.

SECTION, in geometry, denotes a side or surface of a body or figure cut off by another; or the place where lines, planes, &c. cut each other.

SECTOR, in geometry, is a part of a circle comprehended between two radii and the arch; or it is a mixed triangle, formed by two radii and the arch of a circle.

I
Sector

SECTOR, is also a mathematical instrument, of great use in finding the proportion between quantities of the same kind: as between lines and lines, surfaces and surfaces, &c. whence the French call it the *compass of proportion*. The great advantage of the sector above the common scales, &c. is, that it is made so as to fit all radii and all scales. By the lines of chords, fines, &c. on the sector, we have lines of chords, fines, &c. to any radius betwixt the length and breadth of the sector when open.

The real inventor of this valuable instrument is unknown; yet of so much merit has the invention appeared, that it was claimed by Galileo, and disputed by nations.

The sector is founded on the fourth proposition of the sixth book of Euclid; where it is demonstrated, that similar triangles have their homologous sides proportional. An idea of the theory of its construction may be conceived thus. Let the lines AB, AC (Plate CCCXLVIII. fig. 5.) represent the legs of the sector; and AD, AE, two equal sections from the centre: if, now the points CB and DE be connected, the lines CB and DE will be parallel; therefore the triangles ADE,

ACB will be similar; and consequently the sides AD, DE, AB, and BC, proportional; that is, as AD : DE :: AB : BC : whence, if AD be the half, third, or fourth part of AB; DE will be a half, third, or fourth part of CB: and the same holds of all the rest. If, therefore, AD be the chord, sine, or tangent, of any number of degrees to the radius AB; DE will be the same to the radius BC.

Description of the Sector. The instrument consists of two rulers or legs, of brass or ivory, or any other matter, representing the radii, moveable round an axis or joint, the middle of which expresses the centre; whence are drawn on the faces of the rulers several scales, which may be distinguished into single and double.

The double scales, or lines graduated upon the faces of the instrument, and which are to be used as sectoral lines, proceed from the centre; and are, 1. Two scales of equal parts, one on each leg, marked LIN. or L. each of these scales, from the great extensiveness of its use, is called the *line of lines*. 2. Two lines of chords marked CHO. or C. 3. Two lines of secants marked SEC. or S. A line of polygons marked POL. Upon the other face the sectoral lines are, 1. Two lines of fines marked SIN. or S. 2. Two lines of tangents marked TAN. or T. 3. Between the line of tangents and fines there is another line of tangents to a lesser radius, to supply the defect of the former, and extending from 45° to 75°, marked t.

Each pair of these lines (except the line of polygons) is so adjusted as to make equal angles at the centre; and consequently at whatever distance the sector be opened, the angles will be always respectively equal. That is, the distance between 10 and 10 on the line of lines, will be equal to 60 and 60 on the line of chords, 90 and 90 on the line of fines, and 45 and 45 on the line of tangents.

Besides the sectoral scales, there are others on each face, placed parallel to the outward edges, and used as those of the common plane scale. 1. These are a line of inches. 2. A line of latitudes. 3. A line of hours. 4. A line of inclination of meridians. 5. A line of chords. Three logarithmic scales, namely, one of numbers, one of fines, and one of tangents; these are used when the sector is fully opened, the legs forming one line (A).

The value of the divisions on most of the lines are determined by the figures adjacent to them; these proceed by tens, which constitute the divisions of the first order, and are numbered accordingly; but the value of the divisions on the line of lines, that are distinguished by figures, is entirely arbitrary, and may represent any value that is given to them; hence the figures 1, 2, 3, 4, &c. may denote either 10, 20, 30, 40, or 100, 200, 300, 400, and so on.

The *line of lines* is divided into ten equal parts, numbered 1, 2, 3, to 10; these may be called *divisions of the first order*; each of these are again subdivided into 10 other equal parts, which may be called *divisions of the second order*; each of these is divided into two equal parts, forming *divisions of the third order*. The divisions on all the scales are contained between four parallel lines; those

(A) The lines are placed in different orders on different sectors, but they may easily be found by these general directions.

Sector. those of the third order extend to the most distant; those of the third to the least; those of the second to the intermediate parallel.

When the whole line of lines represents 100, the divisions of the first order, or those to which the figures are annexed, represent tens; those of the second order units; those of the third order the halves of these units. If the whole line represent ten, then the divisions of the first order are units; those of the second tenths; the thirds twentieths.

In the line of tangents, the divisions to which the numbers are affixed, are the degrees expressed by those numbers. Every fifth degree is denoted by a line somewhat longer than the rest; between every number and each fifth degree, there are four divisions, longer than the intermediate adjacent ones, these are whole degrees; the shorter ones, or those of the third order, are 30 minutes.

From the centre, to 60 degrees, the line of sines is divided like the line of tangents, from 60 to 70; it is divided only to every degree, from 70 to 80, to every two degrees, from 80 to 90; the division must be estimated by the eye.

The divisions on the line of chords are to be estimated in the same manner as the tangents.

The lesser line of tangents is graduated every two degrees, from 45 to 50; but from 50 to 60 to every degree; from 60 to the end, to half degrees.

The line of secants from 0 to 10 is to be estimated by the eye; from 20 to 50, it is divided to every two degrees; from 50 to 60, to every degree; from 60 to the end, to every half degree.

4
Division of
a given line
by the line
of equal
parts.

Use of the Line of Equal Parts on the SECTOR. 1. To divide a given line into any number of equal parts, suppose seven. Take the given line in your compasses; and setting one foot in a division of equal parts, that may be divided by seven, for example 70, whose seventh part is 10, open the sector till the other point fall exactly on 70, in the same line on the other leg. In this disposition, applying one point of the compasses to 10 in the same line; shut them till the other fall in 10 in the same line on the other leg, and this opening will be the seventh part of the given line. Note, if the line to be divided be too long to be applied to the legs of the sector, divide only one half or one fourth by seven, and the double or quadruple thereof will be the seventh part of the whole.

5
To mea-
sure the pe-
rimeter of
a polygon

2. To measure the lines of the perimeter of a polygon, one of which contains a given number of equal parts. Take the given line in your compasses, and set it parallel, upon the line of equal parts, to the number on each leg expressing its length. The sector remaining thus, set off the length of each of the other lines parallel to the former, and the number each of them falls on will express its length.

6
Subtrac-
tion.

3. A right line being given, and the number of parts it contains, suppose 120, to take from it a shorter line, containing any number of the same parts, suppose 25. Take the given line in your compasses, open the sector till the two feet fall on 120 on each leg; then will the distance between 25 on one leg; and the same number on the other, give the line required.

7
Multiplica-
tion.

4. To multiply by the line of equal parts on the sector. Take the lateral distance from the centre of the

line to the given multiplicator; open the sector till you fit that lateral distance to the parallel of 1 and 1, or 10 and 10, and keep the sector in that disposition; then take in the compasses the parallel distance of the multiplicand, which distance, measured laterally on the same line, will give the product required. Thus, suppose it were required to find the product of 8 multiplied by 4: take the lateral distance from the centre of the line to 4 in your compasses, i. e. place one foot of the compasses in the beginning of the divisions, and extend the other along the line to 4. Open the sector till you fit this lateral distance to the parallel of 1 and 1, or 10 and 10. Then take the parallel distance of 8, the multiplicand; i. e. extend the compasses from 8, in this line, on one leg, to 8 in the same line on the other; and that extent, measured laterally, will give the product required.

5. To divide by the line of equal parts on the sector. Extend the compasses laterally from the beginning of the line to 1, and open the sector till you fit that extent to the parallel of the divisor; then take the parallel distance of the dividend, which extent, measured in a lateral direction, will give the quotient required. Thus, suppose it was required to divide 36 by 4; extend the compasses laterally, the beginning of the line to 1, and fit to that extent the parallel of 4, the divisor; then extend the compasses parallel, from 36 on one leg to 36 on the other, and that extent, measured laterally, will give 9, the quotient required.

6. Proportion by the line of equal parts. Make the lateral distance of the second term the parallel distance of the first term, the parallel distance of the third term is the fourth proportional. *Example.* To find a fourth proportional to 8, 4, and 6, take the lateral distance of 4, and make it the parallel distance of 8; then the parallel distance of 6, extended from the centre, shall reach to the fourth proportional 3.

In the same manner, a third proportional is found to two numbers. Thus, to find a third proportional to 8 and 4, the sector remaining as in the former example, the parallel distance of 4, extended from the centre, shall reach to the third proportional 2. In all these cases, if the number to be made a parallel distance be too great for the sector, some aliquot part of it is to be taken, and the answer is to be multiplied by the number by which the first number was divided.

Use of the Line of Chords on the SECTOR. 1. To open the sector so as the two lines of chords may make an angle or number of degrees, suppose 40. Take the distance from the joint to 40, the number of the degrees proposed, on the line of chords; open the sector till the distance from 60 to 60, on each leg, be equal to the given distance of 40; then will the two lines on the sector form an angle of 40 degrees, as was required.

2. The sector being opened, to find the degrees of its aperture. Take the extent from 60 to 60, and lay it off on the line of chords from the centre; the number whereon it terminates will show the degrees, &c. required.

3. To lay off any number of degrees upon the circumference of a circle. Open the sector till the distance between 60 and 60 be equal to the radius of the given circle; then take the parallel extent of the chord of the number of degrees on each leg of the sector, and lay

8
Division in
general.

9
Proportion.

10
Line of
chords.

Sector. lay it off on the circumference of the given circle.— Hence any regular polygon may be easily inscribed in a given circle.

11
Line of polygons.

Use of the Line of Polygons on the Sector. 1. To inscribe a regular polygon in a given circle. Take the semidiameter of the given circle in the compasses, and adjust it to the number 6, on the line of polygons, on each leg of the sector: then, the sector remaining thus opened, take the distance of the two equal numbers, expressing the number of sides the polygon is to have; *e. gr.* the distance from 5 to 5 for a pentagon, from 7 to 7 for a heptagon, &c. These distances carried about the circumference of the circle, will divide it into so many equal parts.

2. To describe a regular polygon, *e. gr.* a pentagon, on a given right line. Take the length of the line in the compasses, and apply it to the extent of the number 5, 5, on the lines of polygons. The sector thus opened, upon the same lines take the extent from 6 to 6; this will be the semidiameter of the circle the polygon is to be inscribed in. If then, with this distance, from the ends of the given line, you describe two arches of a circle, their intersection will be the centre of the circle.

3. On a right line, to describe an isocles triangle, having the angles at the base double that at the vertex. Open the sector, till the ends of the given line fall on 10 and 10 on each leg; then take the distance from 6 to 6. This will be the length of the two equal sides of the triangle.

12
Sines, tangents, and secants.

Use of the Lines of Sines, Tangents, and Secants, on the Sector. By the several lines disposed on the sector, we have scales to several radii; so that having a length or radius given, not exceeding the length of the sector when opened, we find the chord, sine, &c. thereto: *e. gr.* Suppose the chord, sine, or tangent, of 10 degrees, to a radius of 3 inches required; make 3 inches the aperture, between 60 and 60, on the lines of chords of the two legs; then will the same extent reach from 45 to 45 on the line of tangents, and from 90 to 90 on the line of the sines on the other side; so that to whatever radius the line of chords is set, to the same are all the others set. In this disposition, therefore, if the aperture between 10 and 10, on the lines of chords, be taken with the compasses, it will give the chord of 10 degrees. If the aperture of 10 and 10 be in like manner taken on the lines of sines, it will be the sine of 10 degrees. Lastly, if the aperture of 10 and 10 be in like manner taken on the lines of tangents, it gives the tangent of 10 degrees.

If the chord, or tangent, of 70 degrees were required; for the chord, the aperture of half the arch, viz. 35, must be taken, as before; which distance, repeated twice, gives the chord of 70 degrees. To find the tangent of 70 degrees to the same radius, the small line of tangents must be used, the other only reaching to 45: making, therefore, 3 inches the aperture between 45 and 45 on the small line; the extent between 70 and 70 degrees on the same, will be the tangent of 70 degrees to 3 inches radius.

To find the secant of an arch, make the given radius the aperture between 0 and 0 on the lines of secants: then will the aperture of 10 and 10, or 70 and 70, on said lines, give the tangent of 10° or 70°.

If the converse of any of these things were required,

that is, if the radius be required, to which a given line is the sine, tangent, or secant, it is but making the given line, if a chord, the aperture on the line of chords, between 10 and 10, and then the sector will stand at the radius required; that is, the aperture between 60 and 60 on the said line is the radius. If the given line were a sine, tangent, or secant, it is but making it the aperture of the given number of degrees; then will the distance of 90 and 90 on the sines, of 45 and 45 on the tangents, of 0 and 0 on the secants, be the radius.

Astronomical Sector. See *ASTRONOMICAL Sector.*

Dialing Sector. See *DIALING.*

SECULAR, that which relates to affairs of the present world, in which sense the word stands opposed to *spiritual, ecclesiastical*: thus we say secular power, &c.

SECULAR, is more peculiarly used for a person who lives at liberty in the world, not shut up in a monastery, nor bound by vows, or subjected to the particular rules of any religious community; in which sense it stands opposed to *regular*. The Romish clergy are divided into secular and regular, of which the latter are bound by monastic rules, the former not.

SECULAR Games, in antiquity, solemn games held among the Romans once in an age. These games lasted three days and as many nights; during which time sacrifices were performed, theatrical shews exhibited, with combats, sports, &c. in the circus. The occasion of these games, according to Valerius Maximus, was to stop the progress of a plague. Valerius Publicola was the first who celebrated them at Rome in the year of the city 245. The solemnity was as follows: The whole world was invited by a herald to a feast which they had never seen already, nor ever should see again. Some days before the games began, the quindcemviri in the Capitol and the Palatine temple, distributed to the people purifying compositions, of various kinds, as flambeaus, sulphur, &c. From hence the populace passed to Diana's temple on the Aventine mount, with wheat, barley, and oats, as an offering. After this, whole nights were spent in devotion to the Destinies. When the time of the games was fully come, the people assembled in the Campus Martius, and sacrificed to Jupiter, Juno, Apollo, Latona, Diana, the Parcae, Ceres, Pluto, and Proserpine. On the first night of the feast the emperor, with the quindcemviri, caused three altars to be erected on the banks of the Tiber, which they sprinkled with the blood of three lambs, and then proceeded to regular sacrifice. A space was next marked out for a theatre, which was illuminated with innumerable flambeaus and fires. Here they sung hymns, and celebrated all kinds of sports. On the day after, having offered victims at the Capitol, they went to the Campus Martius, and celebrated sports to the honour of Apollo and Diana. These lasted till next day, when the noble matrons, at the hour appointed by the oracle, went to the Capitol to sing hymns to Jupiter. On the third day, which concluded the solemnity, twenty-seven boys, and as many girls, sung in the temple of Palatine Apollo hymns and verses in Greek and Latin, to recommend the city to the protection of those deities whom they designed particularly to honour by their sacrifices.

The inimitable *Carmen Seclare* of Horace was composed for this last day, in the Secular Games, held by Augustus.

Sector.
Secular.

Secular
||
Secundus.

It has been much disputed whether these games were held every hundred, or every hundred and ten years. Valerius Antius, Varro, and Livy, are quoted in support of the former opinion: In favour of the latter may be produced the quindecimviral registers, the edicts of Augustus, and the words of Horace in the Secular poem,

Cætus undenos decies per annos.

It was a general belief, that the girls who bore a part in the song should be soonest married; and that the children who did not dance and sing at the coming of Apollo, should die unmarried, and at an early period of life.

SECULAR Poem, a poem sung or rehearsed at the secular games; of which kind we have a very fine piece among the works of Horace, being a sapphic ode at the end of his epodes.

SECULARIZATION, the act of converting a regular person, place, or benefice, into a secular one. Almost all the cathedral churches were anciently regular, that is, the canons were to be religious; but they have been since secularized. For the secularization of a regular church, there is required the authority of the pope, that of the prince, the bishop of the place, the patron, and even the consent of the people. Religious that want to be released from their vow, obtain briefs of secularization from the pope.

SECUNDINES, in anatomy, the several coats or membranes wherein the fœtus is wrapped up in the mother's womb; as the chorion and amnios, with the placenta, &c.

SECUNDUS (Joannes Nicolaius), an elegant writer of Latin poetry, was born at the Hague in the year 1511. His descent was from an ancient and honourable family in the Netherlands; and his father Nicolaus Everardus, who was born in the neighbourhood of Middleburg, seems to have been high in the favour of the emperor Charles V. as he was employed by that monarch in several stations of considerable importance. We find him first a member of the grand parliament or council of Mechelen, afterwards president of the states of Holland and Zealand at the Hague, and lastly holding a similar office at Mechelen, where he died, August 5. 1532, aged 70.

These various employments did not occupy the whole of Everardus's time. Notwithstanding the multiplicity of his business, he found leisure to cultivate letters with great success, and even to act as preceptor to his own children, who were five sons and three daughters. They all took the name of Nicolaii from their father; but on what account our author was called *Secundus* is not known. It could not be from the order of his birth, for he was the youngest son. Perhaps the name was not given him till he became eminent; and then, according to the fashion of the age, it might have its rise from some pun, such as his being *Poetarum nemini Secundus*. Poetry, however, was by no means the profession which his father wished him to follow. He intended him for the law, and when he could no longer direct his studies himself, placed him under the care of *Jacobus Valeardus*. This man is said to have been every way well qualified to discharge the important trust which was committed to him; and he certainly gained the affection of his pupil, who, in one of his poems,

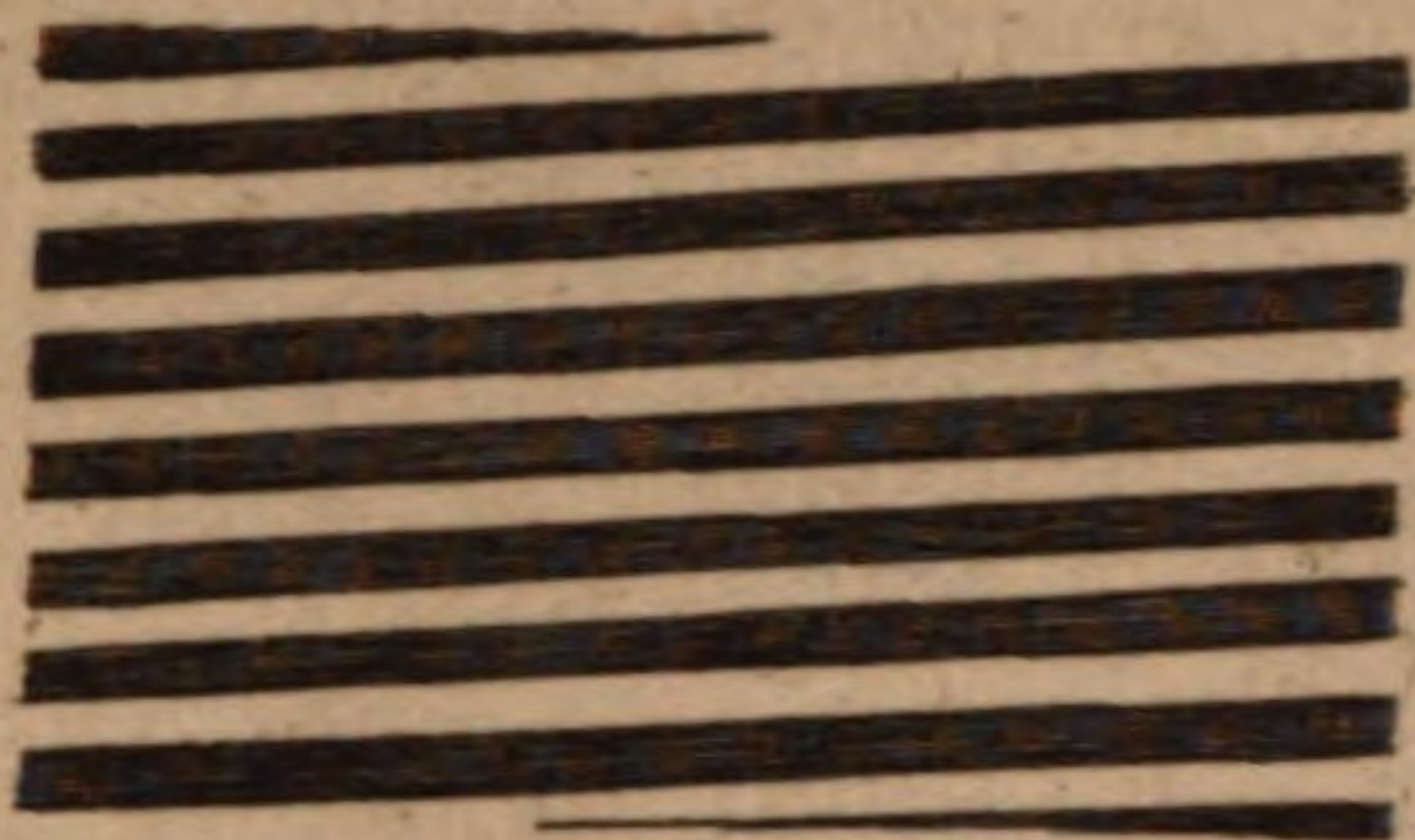
mentions the death of Valeardus with every appearance of unfeigned sorrow. Another tutor was soon provided; but it does not appear that Secundus devoted much of his time to legal pursuits. Poetry and the sister arts of painting and sculpture had engaged his mind at a very early period; and the imagination, on which these have laid hold, can with difficulty submit to the dry study of musty civilians. Secundus is said to have written verses when but ten years old; and from the vast quantity which he left behind him, we have reason to conclude that such writing was his principal employment. He found time, however, to carve figures of all his own family, of his mistresses, of the emperor Charles V. of several eminent personages of those times, and of many of his intimate friends; and in the last edition of his works published by Scirverius at Leyden, 1631, there is a print of one of his mistresses with this inscription round it; *VATIS AMATORIS JULIA SCULPTA MANU*.

Secundus having nearly attained the age of twenty one, and being determined, as it would seem, to comply as far as possible with the wishes of his father, quitted Mechelen, and went to France, where at *Bourges*, a city in the *Orleanois*, he studied the civil law under the celebrated *Andreas Alciatus*. Alciatus was one of the most learned civilians of that age; but what undoubtedly endeared him much more to our author was his general acquaintance with polite literature, and more particularly his taste in poetry. Having studied a year under this eminent professor, and taken his degrees, Secundus returned to Mechelen, where he remained only a very few months. In 1533 he went into Spain with warm recommendations to the count of Nassau and other persons of high rank; and soon afterwards became secretary to the cardinal archbishop of Toledo in a department of business which required no other qualifications than what he possessed in a very eminent degree, a facility in writing with elegance the Latin language. It was during his residence with this cardinal that he wrote his *Basia*, a series of wanton poems, of which the fifth, seventh, and ninth *carmina* of *Catullus* seem to have given the hint. Secundus was not, however, a servile imitator of Catullus. His expressions seem to be borrowed rather from *Tibullus* and *Propertius*; and in the warmth of his descriptions he surpasses every thing that has been written on similar subjects by *Catullus*, *Tibullus*, *Propertius*, *G. Gallus*, *Ovid*, or *Horace*.

In 1535 he accompanied the emperor Charles V. to the siege of Tunis, but gained no laurels as a soldier. The hardships which were endured at that memorable siege were but little suited to the soft disposition of a votary of Venus and the muses; and upon an enterprise which might have furnished ample matter for an epic poem, it is remarkable that Secundus wrote nothing which has been deemed worthy of preservation. Having returned from his martial expedition, he was sent by the cardinal to Rome to congratulate the pope upon the success of the emperor's arms; but was taken so ill on the road, that he was not able to complete his journey. He was advised to seek, without a moment's delay, the benefit of his native air; and that happily recovered him.

Having now quitted the service of the archbishop of Toledo, Secundus was employed in the same office of secretary by the bishop of Utrecht; and so much had

N^o 1.



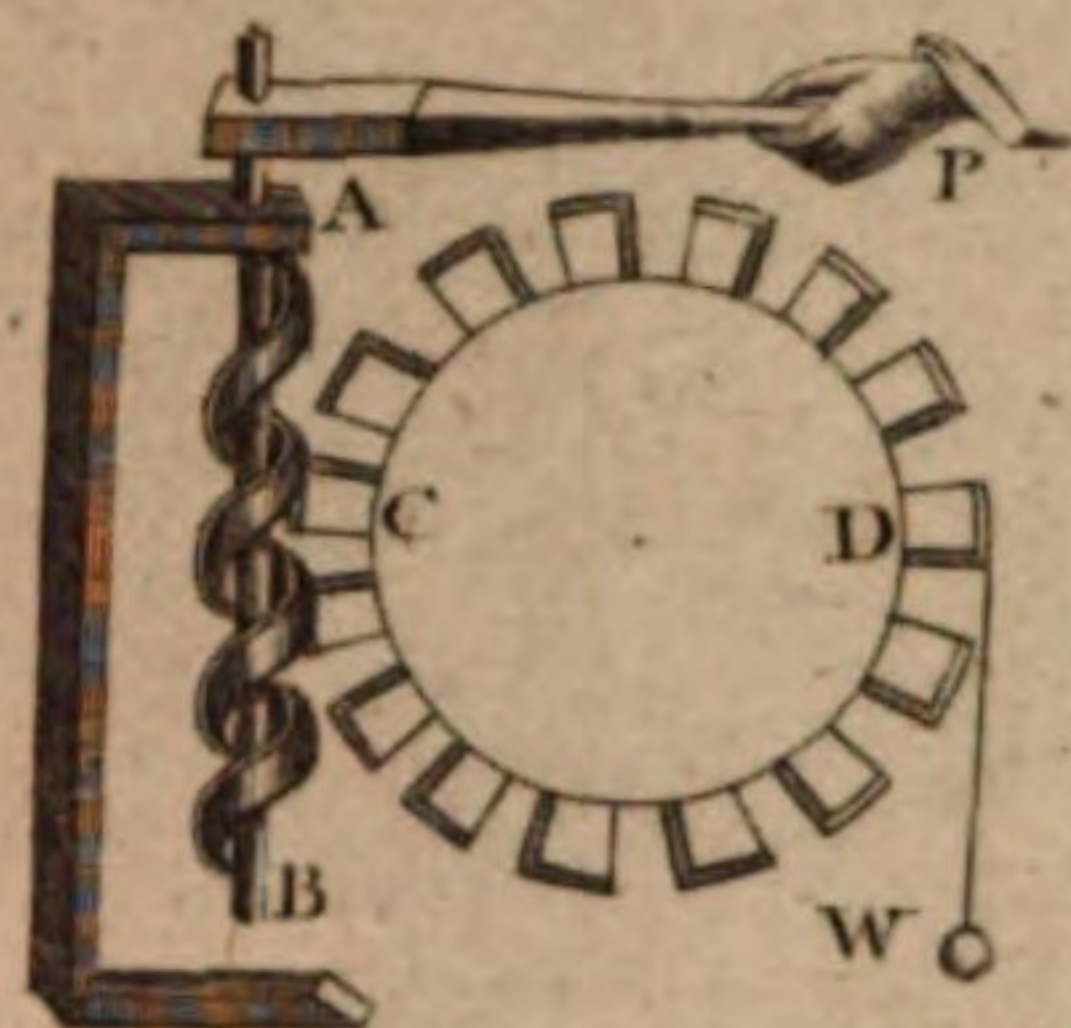
N^o 2.



N^o 3.



N^o 4.



Machine for Freshening
SEA WATER.

Fig. 1.

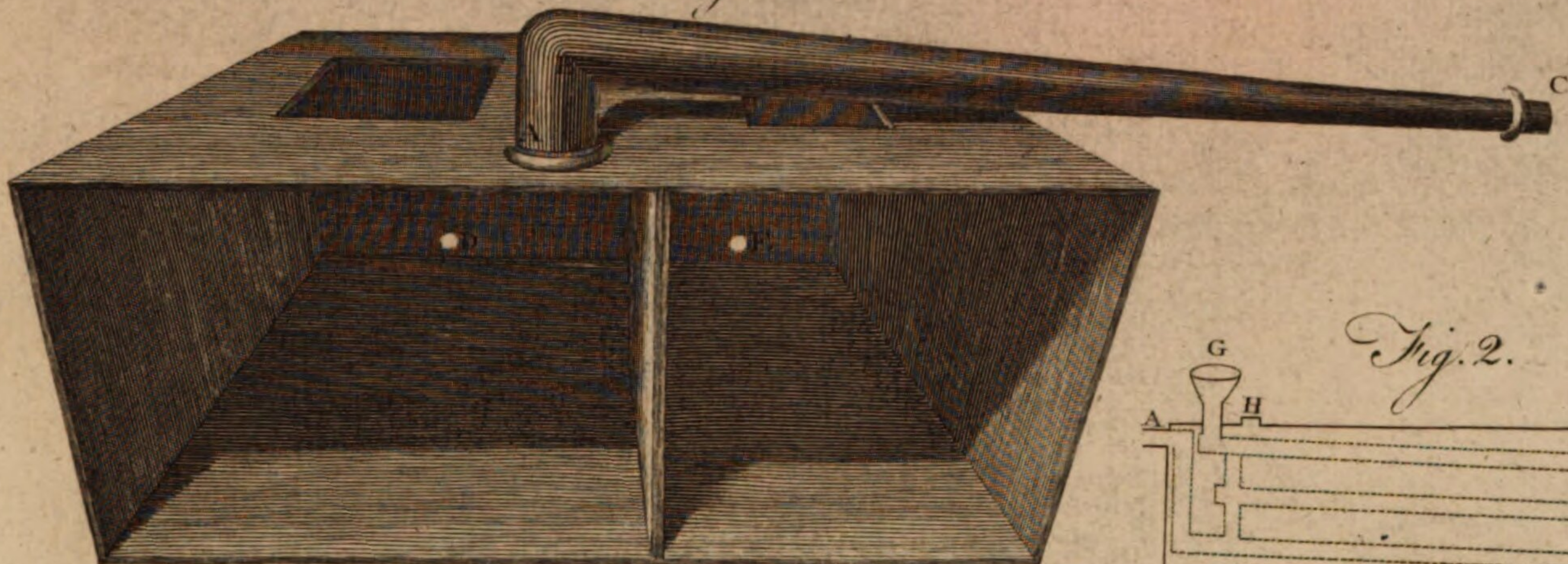
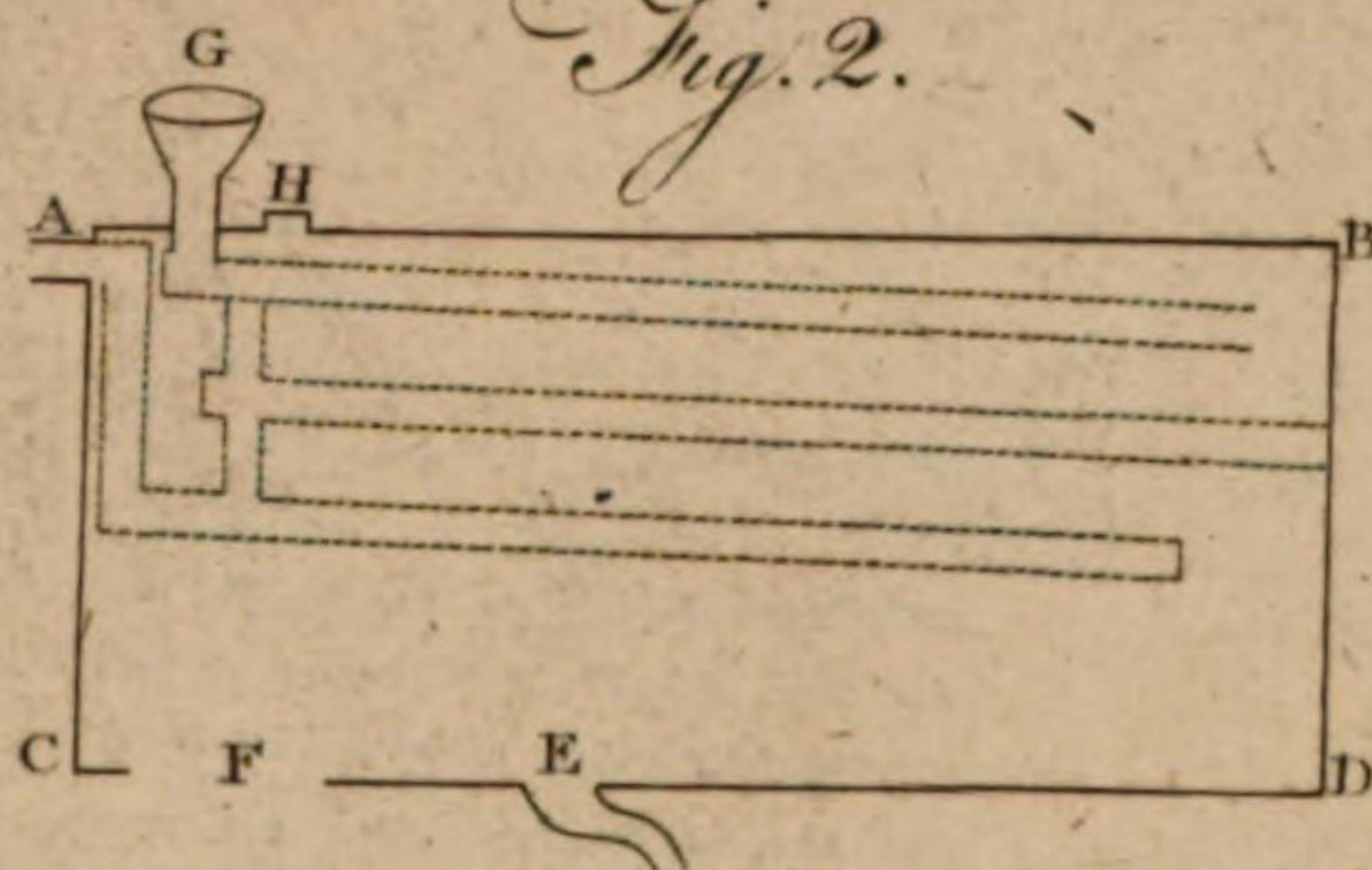


Fig. 2.



SECTOR.

Fig. 3.

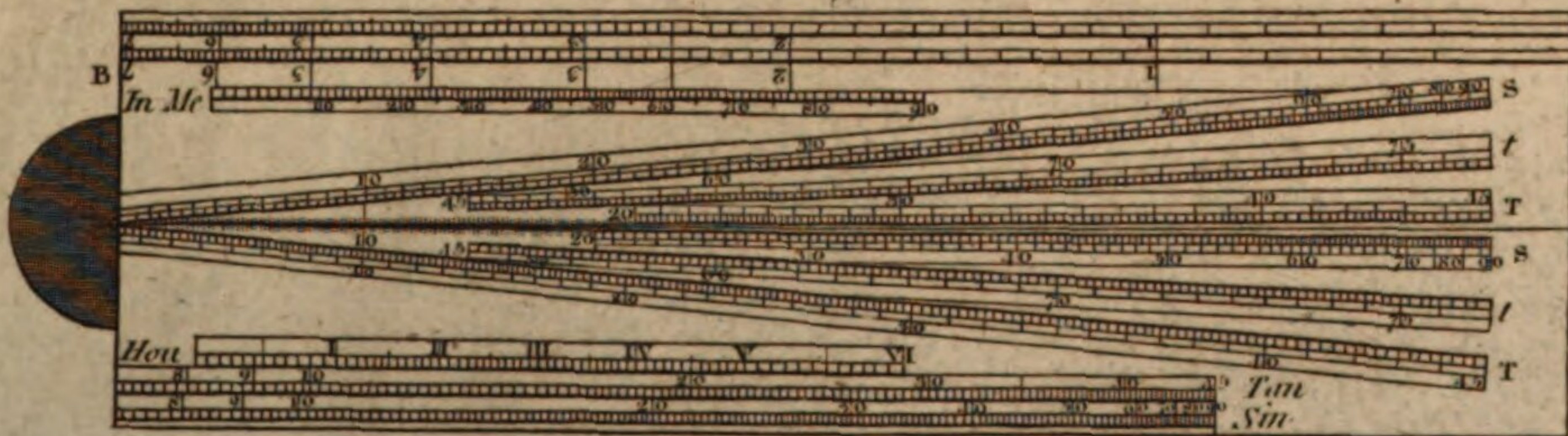


Fig. 4.

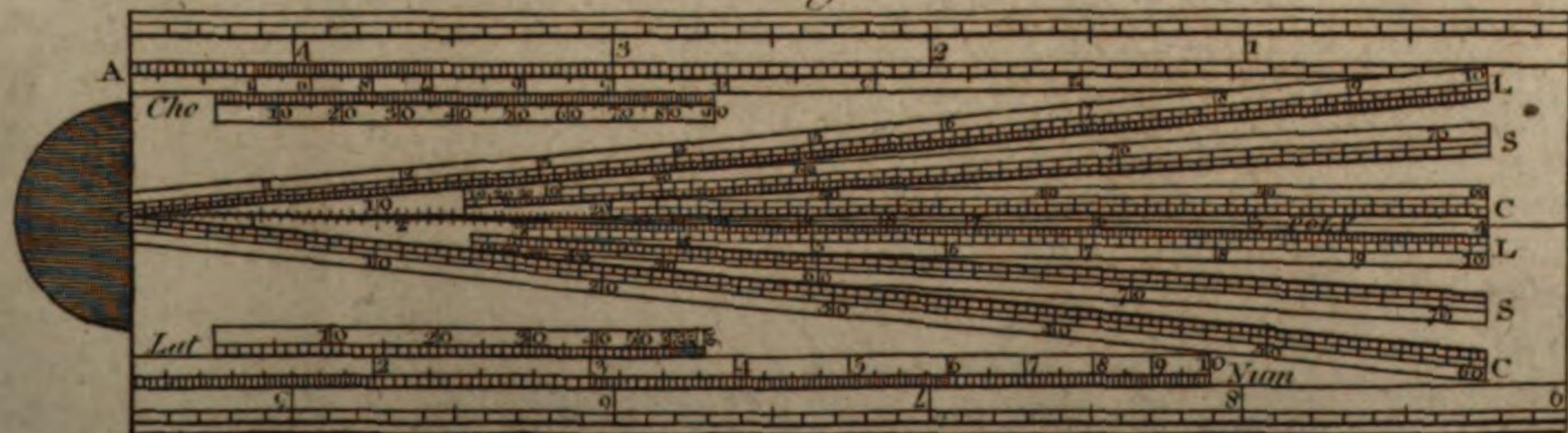
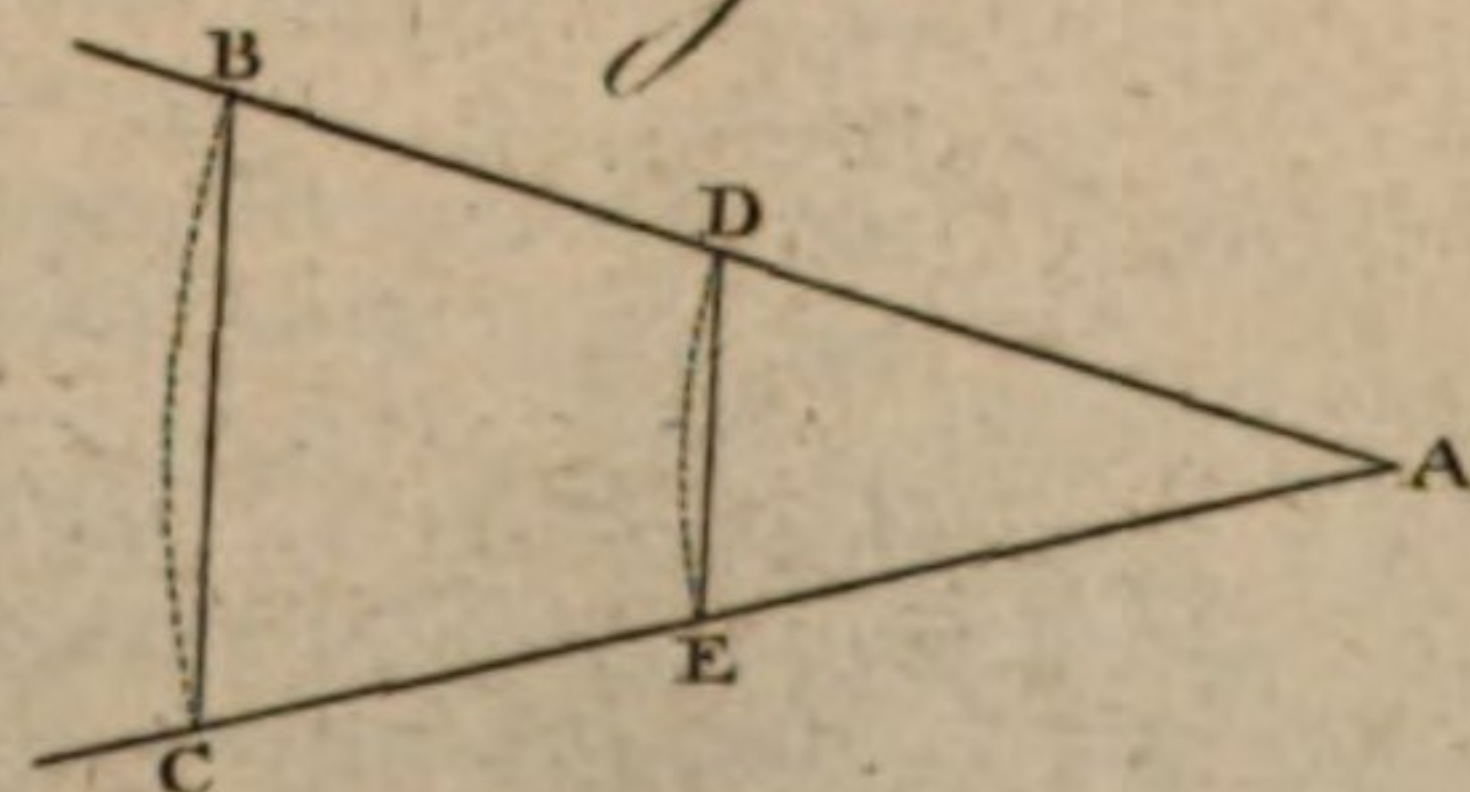


Fig. 5.



1840

1840

1840

1840

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1840

1840

Secundus
||
Secutores.

he hitherto distinguished himself by the classical elegance of his compositions, that he was soon called upon to fill the important post of private Latin secretary to the emperor, who was then in Italy. This was the most honourable office to which our author was ever appointed; but before he could enter upon it death put a stop to his career of glory. Having arrived at *Saint Amand* in the district of *Tournay*, in order to meet, upon business, with the bishop of *Utrecht*, he was on the 8th of October 1536 cut off by a violent fever, in the very flower of his age, not having quite completed his twenty-fifth year. He was interred in the church of the *Benedictines*, of which his patron, the bishop, was *abbot* or *pro-abbot*; and his near relations erected to his memory a marble monument, with a plain Latin inscription.

The works of *Secundus* have gone through several editions, of which the best and most copious is that of *Scriverius* already mentioned. It consists of *JULIA, Eleg. Lib. 1.*; *AMORES, Eleg. Lib. 2.*; *AD DIVERSOS Eleg. Lib. 3.*; *BASIA*, styled by the editor *incomparabilis et divinus prorsus liber*; *EPIGRAMMATA*; *ODARUM liber unus*; *EPISTOLARUM liber unus Elegiaca*; *EPISTOLARUM liber alter, heroico carmine scriptus*; *FUNERUM liber unus*; *SYLVÆ et CARMINUM fragmenta*; *POEMATA nonnulla fratrum*; *ITINERARIA Secundi tria, &c.*; *EPISTOLÆ totidem, soluta oratione*. Of these works it would be superfluous in us to give any character after the ample testimonies prefixed to them of *Lelius Greg. Gyraldus*, the elder *Scaliger*, *Theodore Beza*, and others equally celebrated in the republic of letters, who all speak of them with rapture. A French critic, indeed, after having affirmed that the genius of *Secundus* never produced any thing which was not excellent in its kind, adds, with too much truth, *Mais sa muse est un peu trop lascive*. For this fault our author makes the following apology in an epigram addressed to the grammarians;

Carmina cur spargam cunctis lasciva libellis,
Queritis? Insultos arceo grammaticos.
Fortia magnanimi canerem si Cæsaris arma,
Factave DIVORUM religiosa VIRUM:
Quot miser exciperemque notas, patererque lituras?
Quot fierem teneris supplicium pueris?
At nunc uda mihi dictant cum BASIA carmen,
Pruriet et versu mentula multa meo;
Me leget innuptæ juvenis placiturus amicæ,
Et placitura nova blanda puella viro:
Et quemcunque juvat lepidorum de grege vatum
Otia festivis ludere deliciis.
Lusibus et lætis procul hinc abstinate, SÆVI
GRAMMATICI, injustas et cohibite manus.
Ne puer, ab malleis cæsus lacrymansque leporis;
DURAM FORTE MEIS OSSIBUS OPTET HUMUM.

SECURIDACA, a plant belonging to the class of *diadelphia*, and to the order of *octandria*. The calyx has three leaves, which are small, deciduous, and coloured. The corolla is papilionaceous. The vexillum, consisting of two petals, is oblong, straight, and conjoined to the carina at the base. The carina is of the same length with the alæ. The legumen is ovated, unilocular, monospermous, and ending in a ligulated ala. There are two species, the *erecta* and *volubilis*. The *erecta* has an upright stem: the *volubilis* or *scandens* is a climbing plant, and is a native of the West Indies.

SECUTORES, a species of gladiators among the
VOL. XVII. Part I.

Sedan,
Sedition.

Romans, whose arms were a helmet, a shield, and a sword or a leaden bullet. They were armed in this manner, because they had to contend with the *retiarii*, who were dressed in a short tunic, bore a three-pointed lance in their left hand, and a net in their right. The *retiarius* attempted to cast his net over the head of the *secutor*; and if he succeeded, he drew it together and slew him with his trident: but if he missed his aim, he immediately betook himself to flight till he could find a second opportunity of intangling his adversary with his net. He was pursued by the *secutor*, who endeavoured to dispatch him in his flight.

Secutores was also a name given to such gladiators who took the place of those killed in the combat, or who engaged the conqueror. This post was usually taken by lot.

SEDAN is a town of Champagne in France, in E. Long. 4. 45. N. Lat. 49. 46. This is the capital of a principality of the same name, situated on the *Maese*, six miles from *Bouillon*, and fifteen from *Charleville*. Its situation on the frontiers of the territory of *Liege*, *Namur*, and *Limburg*, formerly rendered it one of the keys of the kingdom. It is extremely well fortified, and defended by a strong citadel. The castle is situated on a rock, surrounded with large towers and strong walls: here you see a most beautiful magazine of ancient arms. The governor's palace is opposite the castle. From the ramparts you have a most agreeable prospect of the *Maese* and the neighbouring country. Though the town is but small, yet it is full of tradesmen, as tanners, weavers, dyers, &c. the manufacture of fine cloth in this city employing a great number of hands. The principality of *Sedan* formerly belonged to the duke of *Bouillon*, who was obliged in the beginning of the last century to resign it to the crown.

SEDAN-CHAIR is a covered vehicle for carrying a single person, suspended by two poles, and borne by two men, hence denominated *chairmen*. They were first introduced in London in 1634, when Sir Sanders Duncomb obtained the sole privilege to use, let, and hire a number of the said covered chairs for fourteen years.

SEDITION, among civilians, is used for a factious commotion of the people, or an assembly of a number of citizens without lawful authority, tending to disturb the peace and order of the society. This offence is of different kinds: some seditions more immediately threatening the supreme power, and the subversion of the present constitution of the state; others tending only towards the redress of private grievances. Among the Romans, therefore, it was variously punished, according as its end and tendency threatened greater mischief. See lib. i. *Cod. de Seditiosis*, and *Mat. de Crimin.* lib. ii. n. 5. *de Læsa Majestate*. In the punishment, the authors and ringleaders were justly distinguished from those who, with less wicked intention, joined and made part of the multitude.

The same distinction holds in the law of England and in that of Scotland. Some kinds of sedition in England amount to high treason, and come within the stat. 25 Edw. III. as levying war against the king. And several seditions are mentioned in the Scotch acts of parliament as treasonable. *Bayne's Crim. Law of Scotland*, p. 33, 34. The law of Scotland makes riotous and tumultuous assemblies a species of sedition. But the law there, as well as in England, is now chiefly regulated

Sedatives
||
Sedley.

regulated by the riot act, made 1 Geo. I. only it is to be observed, that the proper officers in Scotland, to make the proclamation thereby enacted, are sheriffs, stewards, and bailies of regalities, or their deputies; magistrates of royal boroughs, and all other inferior judges and magistrates; high and petty constables, or other officers of the peace, in any county, stewartry, city, or town. And in that part of the island, the punishment of the offence is any thing short of death which the judges, in their discretion, may appoint.

SEDATIVES, in medicine, a general name for such medicines as weaken the powers of nature, such as blood-letting, cooling salts, purgatives, &c.

SE DEFENDENDO, in law, a plea used for him that is charged with the death of another, by alleging that he was under a necessity of doing what he did in his own defence: as that the other assaulted him in such a manner, that if he had not done what he did, he must have been in hazard of his own life. See HOMICIDE and MURDER.

SEDIMENT, the settlement or dregs of any thing, or that gross heavy part of a fluid body which sinks to the bottom of the vessel when at rest.

SEDLEY (Sir Charles), an English poet and wit, the son of Sir John Sedley of Aylesford in Kent, was born about the year 1639. At the restoration he came to London to join the general jubilee; and commenced wit, courtier, poet, and gallant. He was so much admired, that he became a kind of oracle among the poets; which made king Charles tell him, that Nature had given him a patent to be Apollo's viceroy. The productions of his pen were some plays, and several delicately tender amorous poems, in which the softness of the verses was so exquisite, as to be called by the duke of Buckingham *Sedley's witchcraft*. "There were no marks of genius or true poetry to be descried, (say the authors of the *Biographia Britannica*); the art wholly consisted in raising loose thoughts and lewd desires, without giving any alarm; and so the poison worked gently and irresistibly. Our author, we may be sure, did not escape the infection of his own art, or rather was first tainted himself before he spread the infection to others."—A very ingenious writer of the present day, however, speaks much more favourably of Sir Charles Sedley's writings. "He studied human nature; and was distinguished for the art of making himself agreeable, particularly to the ladies; for the verses of Lord Rochester, beginning with, *Sedley has that prevailing gentle art*, &c. so often quoted, allude not to his writings, but to his *personal address*." [*Langhorn's Effusions*, &c.]—But while he thus grew in reputation for wit and in favour with the king, he grew poor and debauched: his estate was impaired, and his morals were corrupted. One of his frolics, however, being followed by an indictment and a heavy fine, Sir Charles took a more serious turn, applied himself to business, and became a member of parliament, in which he was a frequent speaker. We find him in the House of Commons in the reign of James II. whose attempts upon the constitution he vigorously withstood; and he was very active in bringing on the revolution. This was thought more extraordinary, as he had received favours from James. But that prince had taken a fancy to Sir Charles's daughter (though it seems she was not very handsome), and, in consequence of his intrigues with

her, he created Miss Sedley countess of Dorchester. This honour, so far from pleasing, greatly shocked Sir Charles. However libertine he himself had been, yet he could not bear the thoughts of his daughter's dishonour; and with regard to her exaltation, he only considered it as rendering her more conspicuously infamous. He therefore conceived a hatred for the king; and from this, as well as other motives, readily joined to dispossess him of the throne. A witty saying of Sedley's, on this occasion, is recorded. "I hate ingratitude, (said Sir Charles); and therefore, as the king has made my daughter a countess, I will endeavour to make his daughter a queen;" meaning the princess Mary, married to the prince of Orange, who dispossessed James of the throne at the revolution. He lived to the beginning of queen Anne's reign; and his works were printed in 2 vols 8vo, 1719.

SEDR, or SEDRE, the high-priest of the sect of Ali among the Persians. The sedre is appointed by the emperor of Persia, who usually confers the dignity on his nearest relation. The jurisdiction of the sedre extends over all effects destined for pious purposes, over all mosques, hospitals, colleges, sepulchres, and monasteries. He disposes of all ecclesiastical employments, and nominates all the superiors of religious houses. His decisions in matters of religion are received as so many infallible oracles; he judges of all criminal matters in his own house without appeal. His authority is balanced by that of the muditehid, or first theologue of the empire.

SEDUCTION, is the act of tempting and drawing aside from the right path, and comprehends every endeavour to corrupt any individual of the human race. This is the import of the word in its largest and most general sense; but it is commonly employed to express the act of tempting a virtuous woman to part with her chastity.

The seducer of female innocence practises the same stratagems of fraud to get possession of a woman's person, that the swindler employs to get possession of his neighbour's goods or money; yet the law of honour, which pretends to abhor *deceit*, and which impels its votaries to murder every man who presumes, however justly, to suspect them of fraud, or to question their veracity, applauds the address of a successful intrigue, tho' it be well known that the seducer could not have obtained his end without swearing to the truth of a thousand falsehoods, and calling upon God to witness promises which he never meant to fulfil.

The law of honour is indeed a very capricious rule, which accommodates itself to the pleasures and conveniences of higher life; but the law of the land, which is enacted for the equal protection of high and low, may be supposed to view the guilt of seduction with a more impartial eye. Yet for this offence, even the laws of this kingdom have provided no other punishment than a pecuniary satisfaction to the injured family; which, in England, can be obtained only by one of the quaintest fictions in the world, by the father's bringing his action against the seducer for the loss of his daughter's service during her pregnancy and nurturing. See *Paley's Moral Philosophy*, Book III. Part iii. Chap. 3.

The moralist, however, who estimates the merit or demerit of actions, not by laws of human appointment, but by their general consequences as established by the laws of nature, must consider the seducer as a criminal

Sedr
||
Seduction;

Seduction of the deepest guilt. In every civilized country, and in many countries where civilization has made but small progress, the virtue of women is collected as it were into a single point, which they are to guard above all things, as that on which their happiness and reputation wholly depend. At first sight this may appear a capricious regulation; but a moment's reflection will convince us of the contrary. In the married state so much confidence is necessarily reposed in the fidelity of women to the beds of their husbands, and evils so great result from the violation of that fidelity, that whatever contributes in any degree to its preservation, must be agreeable to him who, in establishing the laws of nature, intended them to be subservient to the real happiness of all his creatures. But nothing contributes so much to preserve the fidelity of wives to their husbands, as the impressing upon the minds of women the highest veneration for the virtue of chastity. She who, when unmarried, has been accustomed to grant favours to different men, will not find it easy, if indeed possible, to resist afterwards the allurements of variety. It is therefore a wise institution, and agreeable to the will of Him who made us, to train up women so as that they may look upon the loss of their chastity as the most disgraceful of all crimes; as that which sinks them in the order of society, and robs them of all their value. In this light virtuous women actually look upon the loss of chastity. The importance of that virtue has been so deeply impressed upon their minds, and is so closely associated with the principle of honour, that they cannot think but with abhorrence upon the very deed by which it is lost. He therefore who by fraud and falsehood persuades the unsuspecting girl to deviate in one instance from the honour of the sex, weakens in a great degree her moral principle; and if he reconcile her to a repetition of her crime, he destroys that principle entirely, as she has been taught to consider all other virtues as inferior to that of chastity. Hence it is that the hearts of prostitutes are generally steeled against the miseries of their fellow-creatures; that they lend their aid to the seducer in his practices upon other girls; that they lie and swear and steal without compunction; and that too many of them hesitate not to commit murder if it can serve any selfish purpose of their own.

The loss of virtue, though the greatest that man or woman can sustain, is not the only injury which the seducer brings upon the girl whom he deceives. She cannot at once reconcile herself to prostitution, or even to the loss of character; and while a sense of shame remains in her mind, the misery which she suffers must be exquisite. She knows that she has forfeited what in the female character is most valued by both sexes; and she must be under the perpetual dread of a discovery. She cannot even confide in the honour of her seducer, who may reveal her secret in a fit of drunkenness, and thus rob her of her fame as well as of her virtue; and while she is in this state of anxious uncertainty, the agony of her mind must be insupportable. That it is so in fact, the many instances of child-murder by unmarried women of every rank leave us no room to doubt. The affection of a mother to her new-born child is one of the most unequivocal and strongest instincts in human nature (see *INSTINCT*); and nothing short of the extremity of distress could prompt any one so far to op-

pose her nature as to embroil her hands in the blood of her imploring infant.

Even this deed of horror seldom prevents a detection of the mother's frailty, which is indeed commonly discovered, though no child has been the consequence of her intrigue. He who can seduce is base enough to betray; and no woman can part with her honour, and retain any well-grounded hope that her amour shall be kept secret. The villain to whom she surrendered will glory in his victory, if it was with difficulty obtained; and if she surrendered at discretion, her own behaviour will reveal her secret. Her reputation is then irretrievably lost, and no future circumspection will be of the smallest avail to recover it. She will be shunned by the virtuous part of her own sex, and treated as a mere instrument of pleasure by the other. In such circumstances she cannot expect to be married with advantage. She may perhaps be able to captivate the heart of a heedless youth, and prevail upon him to unite his fate to hers before the delirium of his passion shall give him time for reflection; she may be addressed by a man who is a stranger to her story, and married while he has no suspicion of her secret; or she may be solicited by one of a station inferior to her own, who, though acquainted with every thing that has befallen her, can barter the delicacy of wedded love for some pecuniary advantage; but from none of these marriages can she look for happiness. The delirium which prompted the first will soon vanish, and leave the husband to the bitterness of his own reflections, which can hardly fail to produce cruelty to the wife. Of the secret, to which, in the second case, the lover was a stranger, the husband will soon make a discovery, or at least find room for harbouring strong suspicions; and suspicions of having been deceived in a point so delicate have hitherto been uniformly the parents of misery. In the third case, the man married her merely for money, of which having got the possession, he has no farther inducement to treat her with respect. Such are some of the consequences of seduction, even when the person seduced has the good fortune to get afterwards a husband; but this is a fortune which few in her circumstances can reasonably expect. By far the greater part of those who have been defrauded of their virtue by the arts of the seducer sink deeper and deeper into guilt, till they become at last common prostitutes. The public is then deprived of their service as wives and parents; and instead of contributing to the population of the state, and to the sum of domestic felicity, these outcasts of society become seducers in their turn, corrupting the morals of every young man whose appetites they can inflame, and of every young woman whom they can entice to their own practices.

All this complication of evil is produced at first by arts, which, if employed to deprive a man of his property, would subject the offender to the execration of his fellow-subjects, and to an ignominious death: but while the forger of a bill is pursued with relentless rigour by the ministers of justice, and the swindler loaded with universal reproach, the man who by fraud and forgery has enticed an innocent girl to gratify his desires at the expence of her virtue, and thus introduced her into a path which must infallibly lead to her own ruin, as well as to repeated injuries to the public at

Seduction.
Sedum

large, is not despised by his own sex, and is too often carested even by the virtuous part of the other. Yet the loss of property may be easily repaired; the loss of honour is irreparable! It is vain to plead in alleviation of this guilt, that women should be on their guard against the arts of the seducer. Most unquestionably they should; but arts have been used which hardly any degree of caution would have been sufficient to counteract. It may as well be said that the trader should be on his guard against the arts of the forger, and accept of no bill without previously consulting him in whose name it is written. Cases, indeed, occur in trade, in which this caution would be impossible; but he must be little acquainted with the workings of the human heart, who does not know that situations likewise occur in life, in which it is equally impossible for a girl of virtue and tenderness to resist the arts of the man who has completely gained her affections.

The mentioning of this circumstance leads us to consider another species of seduction, which, though not so highly criminal as the former, is yet far removed from innocence; we mean the practice which is too prevalent among young men of fortune of employing every art in their power to gain the hearts of heedless girls whom they resolve neither to marry nor to rob of their honour. Should a man adhere to the latter part of this resolution, which is more than common fortitude can always promise for itself, the injury which he does to the object of his amusement is yet very great, as he raises hopes of the most sanguine kind merely to disappoint them, and diverts her affections perhaps for ever from such men as, had they been fixed on one of them, might have rendered her completely happy. Disappointments of this kind have sometimes been fatal to the unhappy girl; and even when they have neither deprived her of life, nor disordered her reason, they have often kept her wholly from marriage, which, whatever it be to a man, is that from which every woman expects her chief happiness. We cannot therefore conclude this article more properly than with warning our female readers not to give up their hearts hastily to men whose station in life is much higher than their own; and we beg leave to assure every one of them, that the man who solicits the last favour under the most solemn promise of a subsequent marriage, is a base seducer, who prefers a momentary gratification of his own to her honour and happiness through life, and has no intention to fulfil his promise. Or, if he should by any means be compelled to fulfil it, she may depend upon much ill treatment in return for her premature compliance with his base desires.

SEDUM, ORPINE, in botany: A genus of the pentagynia order, belonging to the decandria class of plants; and in the natural method ranking under the 13th order, *Succulentæ*. The calyx is quinquefid; the corolla is pentapetalous, pointed, and spreading; there are five nectariferous squamæ or scales at the base of the germen. The capsules are five.

The species are 20 in number. 1. The Verticillatum; 2. Telephium; 3. Anacampteros; 4. Aizoon; 5. Hybridum; 6. Populifolium; 7. Stellatum; 8. Cepaea; 9. Libanoticum; 10. Dasiphyllum; 11. Reflexum; 12. Rupestre; 13. Lineare; 14. Hispanicum; 15. Album; 16. Acre; 17. Sexangulare; 18. Annum;

19. Villosum; 20. Atratum. The following species are the most remarkable. Sedum.

1. The telephium, common orpine, or live-long, hath a perennial root, composed of many knobbed tubercles, sending up erect, round, succulent stalks, branching half a yard or two feet high, garnished with oblong, plane, serrated, succulent leaves, and the stalks terminated by a leafy corymbus of flowers, of different colours in the varieties. This species is an inhabitant of woods and dry places in England, &c. but has been long a resident of gardens for variety and medical use. 2. The anacampteros, or decumbent evergreen Italian orpine, hath a fibrous perennial root, decumbent or trailing stalks, wedge-shaped entire leaves, and the stalks terminated by a corymbus of purple flowers. 3. The rupestre, rock sedum, or stone-crop of St Vincent's rock, hath slender, trailing, purple stalks; short, thick, awl-shaped, succulent, glaucous leaves in clusters, quinquefariouly imbricated round the stalks, and the stalks terminated by roundish cymose bunches of bright yellow flowers. It grows naturally on St Vincent's rock near Bristol, and other rocky places in Europe. 4. The aizoon, or Siberian yellow orpine, hath a tuberculate, fibrous, perennial root; many upright, round, succulent, stalks, a foot high; lanceolated, plane, serrated, thickish leaves; and the stalks terminated by a close-sitting cymose cluster of bright yellow flowers. 5. The reflexum, reflexed small yellow sedum, or prick-madam, hath a slender fibrous perennial root; small trailing succulent stalks, garnished with thick, awl-shaped, succulent leaves sparsely, the lower ones recurved, and the stalks terminated by reflexed spikes of bright yellow flowers. It grows naturally on old walls and buildings in England, &c. 6. The acre, acrid sedum, common stone-crop of the wall, or wall-pepper, hath small fibry roots, very slender succulent stalks four or five inches high, very small, suboval, gibbous, erect, alternate leaves, close together, and the stalks terminated by trifid cymose bunches of small yellow flowers. This sort grows abundantly on rocks, old walls, and tops of buildings, almost everywhere, which often appear covered with the flowers in summer. 7. The sexangulare, or sexangular stone-crop, hath a fibry perennial root; thick, short, succulent stalks; small, suboval, gibbous, erect leaves close together, arranged six ways imbricatum, and the stalks terminated by bunches of yellow flowers. It grows on rocky and other dry places in England, &c. 8. The album, or white stone-crop, hath fibry perennial roots; trailing slender stalks, six or eight inches long; oblong, obtuse, sessile, spreading leaves; and the stalks terminated by branchy cymose bunches of white flowers. This grows on old walls, rocks, and buildings, in England, &c. 9. The hispanicum, or Spanish sedum, hath fibrous perennial roots, crowned with clusters of taper, acute, succulent leaves; slender succulent stalks, four or five inches high, garnished also with taper leaves, and terminated by downy cymose clusters of white flowers.

All these species of sedum are hardy herbaceous succulent perennials, durable in root, but mostly annual in stalk, &c. which, rising in spring, flower in June, July, and August, in different sorts; the flowers consisting universally of five spreading petals, generally crowning the stalks numerously in corymbose and cymose bunches and spikes, appearing tolerably conspicuous, and are suc-

Seed
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Seeks.

Seeks

succeeded by plenty of seeds in autumn, by which they may be propagated, also abundantly by parting the roots, and by slips or cuttings of the stalks in summer; in all of which methods they readily grow and spread very fast into tufted bunches: being all of succulent growth, they consequently delight most in dry soils, or in any dry rubbishy earth.

Uses. As flowering plants, they are mostly employed to embellish rock-work, ruins, and the like places, planting either the roots or cuttings of the shoots in a little mud or any moist soil at first, placing it in the crevices, where they will soon root and fix themselves, and spread about very agreeably. For economical purposes, the reflexum and rupestre are cultivated in Holland and Germany, to mix with lettuce in sallads. The wall-pepper is so acrid, that it blisters the skin when applied externally. Taken inwardly, it excites vomiting. In scorbutic cases and quartan agues, it is said to be an excellent medicine under proper management. Goats eat it; cows, horses, sheep, and swine, refuse it.

SEED, in physiology, a substance prepared by nature for the reproduction and conservation of the species both in animals and plants. See BOTANY, sect. iv. p. 435.; and PHYSIOLOGY, sect. xii.

SEEDLINGS, among gardeners, denote such roots of gilliflowers, &c. as come from seed sown. Also the young tender shoots of any plants that are newly sown.

SEEDY, in the brandy trade, a term used by the dealers to denote a fault that is found in several parcels of French brandy, which renders them unsaleable. The French suppose that these brandies obtain the flavour which they express by this name, from weeds that grow among the vines from whence the wine of which this brandy is pressed was made.

SEEING, the perceiving of external objects by means of the eye. For an account of the organs of sight, and the nature of vision, see ANATOMY, sect. vi. and OPTICS, page 292, *et seq.*

SEEKS, a religious sect settled at Patna, and so called from a word contained in one of the commandments of their founder, which signifies *learn thou*. In books giving an account of oriental sects and oriental customs, we find mention made both of *Seeks* and *Seiks*; and we are strongly inclined to think that the same tribe is meant to be denominated by both words. If so, different authors write very differently of their principles and manners. We have already related what we then knew of the *Seiks* under the article HINDOOS, p. 530; but in the Asiatic Researches, Mr Wilkins gives a much more amiable account of the *Seeks*, which we lay before our readers with pleasure.

The *Seeks* are a sect distinguished both from the Mussulmans and the worshippers of Brahma; and, from our author's account of them, must be an amiable people. He asked leave to enter into their chapel: They said it was a place of worship, open to all men, but intimated that he must take off his shoes. On complying with this ceremony, he was politely conducted into the hall, and seated upon a carpet in the midst of the assembly. The whole building forms a square of about 40 feet. The hall is in the centre, divided from four other apartments by wooden arches, upon pillars of the same materials. The walls above the arches were hung with European looking-glasses in gilt frames, and with

pictures. On the left hand, as one enters, is the chancel, which is furnished with an altar covered with cloth of gold, raised a little above the ground in a declining position. About it were several flower-pots and rose-water-bottles, and three urns to receive the donations of the charitable. On a low desk, near the altar, stood a great book, of folio size, from which some portions are daily read in the divine service. When notice was given that it was *noon*, the congregation arranged themselves upon the carpet on each side of the hall. The great book and desk were brought from the altar, and placed at the opposite extremity. An old silver-haired man kneeled down before the desk, with his face towards the altar, and by him sat a man with a drum, and two or three with cymbals. The book was now opened, and the old man began to chant to the time of the instruments, and at the conclusion of every verse most of the congregation joined chorus in a response, with countenances exhibiting great marks of joy. Their tones were not harsh; the time was quick; and Mr Wilkins learned that the subject was a hymn in praise of the unity, omnipresence, and omnipotence of the Deity. The hymn concluded, the whole company got up and presented their faces, with joined hands, towards the altar in the attitude of prayer. The prayer was a sort of litany pronounced by a young man in a loud and distinct voice; the people joining, at certain periods, in a general response. This prayer was followed by a short blessing from the old man, and an invitation to the assembly to partake of a friendly feast. A share was offered to Mr Wilkins, who was too polite to refuse it. It was a kind of sweetmeat composed of sugar and flower mixed up with clarified butter. They were next served with a few sugar plums; and thus ended the feast and ceremony.

In the course of conversation Mr Wilkins learned that the founder of this sect was *Naneeek Sah*, who lived about 400 years ago; who left behind him a book, composed by himself in verse, containing the doctrines he had established; that this book teaches, that there is but one God, filling all space, and pervading all matter; and that there will be a day of retribution, when virtue will be rewarded, and vice punished. (Our author forgot to ask in what manner.) It forbids murder, theft, and such other deeds as are by the majority of mankind esteemed crimes, and inculcates the practice of all the virtues; but, particularly, a universal philanthropy and hospitality to strangers and travellers. It not only commands universal toleration, but forbids disputes with those of another persuasion. If any one show a sincere inclination to be admitted among them, any five or more *Seeks* being assembled in any place, even on the highway, they send to the first shop where sweetmeats are sold, and procure a very small quantity of a particular kind called *batāfā* (Mr Wilkins does not tell us of what it is composed), which having diluted in pure water, they sprinkle some of it on the body and eyes of the proselyte, whilst one of the best instructed repeats to him the chief canons of their faith, and exacts from him a solemn promise to abide by them the rest of his life. They offered to admit Mr Wilkins into their society; but he declined the honour, contenting himself with their alphabet, which they told him to guard as the apple of his eye, as it was a sacred character. Mr Wilkins finds it but little different from the Dewanagari.

The

Segeberg
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Segovia.

The language itself is a mixture of Persian, Arabic, and Shanferit, grafted upon the provincial dialect of Punjab, which is a kind of Hindowee, or, as we commonly call it, *Moors*.

SEGE^BERG, a town of Germany, in the duchy of Holstein, and in Wagria; with a castle standing on a high mountain, consisting of limestone, large quantities of which are carried to Hamburg and Lubeck. It belongs to Denmark, and is seated on the river Treve, in E. Long. 10. 9. N. Lat. 54. 0.

SEGEDIN, a strong town of Lower Hungary, in the county of Csongrad, with a castle. The Imperialists took it from the Turks in 1686. It is seated at the confluence of the rivers Tefse and Masroch, in E. Long. 20. 35. N. Lat. 46. 28.

SEGMENT of a CIRCLE, in geometry, is that part of the circle contained between a chord and an arch of the same circle.

SEGNA, a city of Croatia, belonging to the house of Austria, and seated on the coast of the Gulph of Venice. It was formerly a place of strength and great importance; but it has suffered many calamities, and its inhabitants at present do not amount to 7000. In the beginning of this century it sent 50 merchant ships to sea; but the inconveniency of its situation and badness of its harbour, in which the sea is never calm, discouraged navigation, and Segna has now very few ships belonging to it. Among the customs of the Segnans, Mr Fortis mentions one relative to the dead, which for its singularity may be worthy of notice.

Fortis's
Travels into
Dalmatia.

"All the relations and friends of the family go to kiss the corpse, by way of taking leave, before burial. Each of them uncovers the face, over which a handkerchief is spread, more or less rich according to the family; having kissed the dead person, every one throws another handkerchief over the face; all which remain to the heirs, and sometimes there are 20, 30, and more at this ceremony. Some throw all these handkerchiefs into the grave with the corpse; and this, in former times, was the general custom; but then they were rich. This seems to have been brought into use as a substitute for the ancient *vast lachrimatorii*." E. Long. 15. 21. N. Lat. 45. 22.

SEGNI, an ancient town of Italy, in the Campagna of Rome, with a bishop's see, and the title of duchy. It is said that organs were first invented here. It is seated on a mountain. E. Long. 13. 15. N. Lat. 41. 50.

SEGORBE, a town of Spain, in the kingdom of Valencia, with the title of a duchy, and a bishop's see. It is seated on the side of a hill, between the mountains, in a soil very fertile in corn and wine, and where there are quarries of fine marble. It was taken from the Moors in 1245; and the Romans thought it worth their while to carry some of the marble to Rome. W. Long. 0. 3. N. Lat. 39. 48.

SEGOVIA, an ancient city of Spain, of great power in the time of the Cæsars, is built upon two hills near the banks of the Arayda in Old Castile. W. Long. 3. 48. N. Lat. 41. 0. It is still a bishop's see, and is distinguished for some venerable remains of antiquity. In the year 1525 the city contained 5000 families, but now they do not surpass 2000, a scanty population for 25 parishes; yet, besides 21 churches and a cathedral, there are 21 convents.

The first object in Segovia that attracts the eye is

the aqueduct, which the singular situation of the city renders necessary. As it is built upon two hills, and the valley by which they are separated, and extends considerably in every direction, it was difficult for a part of the citizens to be supplied with water. The difficulty was removed, according to the opinion of the learned, in the reign of Trajan, by this aqueduct, which is one of the most astonishing and the best preserved of the Roman works. In the opinion of Mr Swinburne, who surveyed it in 1776, and who seems to have given a very accurate account of the curiosities of Segovia, it is superior in elegance of proportion to the Pont du Gard at Nîmes. It is so perfectly well preserved, that it does not seem leaky in any part. From the first low arches to the reservoir in the town, its length is 2400 Spanish feet; its greatest height (in the Plaza del Azobejo at the foot of the walls) is 104; it is there composed of a double row of arches, built of large square stones without mortar, and over them a hollow wall of coarser materials for the channel of the water, covered with large oblong flags. Of the lower range of arcades, which are 15 feet wide by 65 high, there are 42. The upper arches are 119 in number, their height 27 Spanish feet, their breadth seventeen, the transversal thickness, or depth of the piers, eight feet.

The cathedral is a mixture of the Gothic and Moorish architecture. The inside is very spacious and of majestic simplicity. The windows are well disposed, and the great altar has been lately decorated with the finest Grenadian marble. But it is to be regretted, that in this cathedral, as well as in most others of Spain, the choir is placed in the middle of the nave. The church is nearly upon the model of the great church of Salamanca, but it is not so highly finished.

The alcazar, or ancient palace of the Moors, stands in one of the finest positions possible, on a rock rising above the open country. A very pretty river washes the foot of the precipice, and the city lies admirably well on each side on the brow of the hill; the declivity is woody, and the banks charmingly rural; the snowy mountains and dark forests of Saint Ildefonso compose an awful back-ground to the picture. Towards the town there is a large court before the great outward tower, which, as the prison of Gil Blas, is so well described by Le Sage, that the subject requires no farther explanation. The rest of the buildings form an antique palace, which has seldom been inhabited by any but prisoners since the reign of Ferdinand and Isabella, who were much attached to this situation. There are some magnificent halls in it, with much gilding in the ceilings, in a semi-barbarous taste. All the kings of Spain are seated in state along the cornice of the great saloon; but it is doubtful whether they are like the princes whose names they bear; if that resemblance, however, be wanting, they have no other merit to claim. The royal apartments are now occupied by a college of young gentlemen cadets, educated at the king's expense in all the sciences requisite for forming an engineer. The grand-master of the ordnance resides at Segovia, which is the head establishment of the Spanish artillery.

The mint is below the alcazar, a large building, the most ancient place of coinage in the kingdom. The machines for melting, stamping, and milling the coin, are worked by water: but there is reason to believe that

Segovia.

Swinburne's
Travels
through
Spain.

Travels in
Spain by the
Chev. de
Bourgoanne.

Segovia
U
Sejant.

that Seville has at present more business, as being nearer the source of riches, the port of Cadiz, where the ingots of America are landed.

The unevenness of the crown of the hill gives a wild look to this city. Most of the streets are crooked and dirty, the houses wooden and very wretched; nor do the inhabitants appear much the richer for their cloth manufactory. Indeed, it is not in a very flourishing condition, but what cloth they make is very fine.

The country about Segovia has the reputation of being the best for rearing the kind of sheep that produces the beautiful Spanish wool; but as those flocks wander over many other parts of the kingdom, Segovia seems to have no exclusive title to this reputation. Segovia (says Mr Townsend, whose valuable travels will be read with much pleasure) was once famous for its cloth made on the king's account; but other nations have since become rivals in this branch, and the manufacture in this city has been gradually declining. When the king gave it up to a private company, he left about 3000 l. in trade; but now he is no longer a partner in the business. In the year 1612 were made here 25,500 pieces of cloth, which consumed 44,625 quintals of wool, employed 34,189 persons; but at present they make only about 4000 pieces. The principal imperfections of this cloth are, that the thread is not even, and that much grease remains in it when it is delivered to the dyer; in consequence of which the colour is apt to fail. Yet, independently of imperfections, so many are the disadvantages under which the manufacture labours, that foreigners can afford to pay 3 l. for the arroba of fine wool, for which the Spaniard gives no more than 20 shillings, and after all his charges can command the market even in the ports of Spain.

SEGOVIA (New), a town of North America, in New Spain, and in the audience of Guatemala; seated on the river Yare, on the confines of the province of Honduras. W. Long. 84. 30. N. Lat. 13. 25.

SEGOVIA, a town of America, in Terra Firma, and in the province of Venezuela, seated on a river, near a very high mountain, where there are mines of gold. W. Long. 65. 30. N. Lat. 8. 20.

SEGOVIA, a town of Asia, in the island of Manila, and one of the largest of the Philippines, seated at the north end of the island, 240 miles north of Manila, and subject to Spain. E. Long. 120. 59. N. Lat. 18. 36.

SEGREANT, is the herald's word for a griffin when drawn in a leaping posture and displaying his wings as if ready to fly.

SEGUE, in the Italian music, is often found before *aria*, *alleluja*, *amen*, &c. to show that those portions or parts are to be sung immediately after the last note of that part over which it is writ; but if these words *si placet*, or *ad libitum*, are joined therewith, it signifies, that these portions may be sung or not at pleasure.

SEGUIERIA, in botany; a plant belonging to the class of polyandria, and the order of monogynia. The calyx is pentaphyllous; the phylla are oblong, concave, coloured, and permanent; there is no corolla. The capsule is oblong and monospermous, the large ala terminating in small lateral alæ. There is only one species, the *americana*.

SEJANT, a term used in heraldry, when a lion, or

other beast, is drawn in an escutcheon sitting like a cat with his fore-feet straight. Sejanus.

SEJANUS (*Ælius*), a native of Vulturnum in Tuscany, who distinguished himself in the court of Tiberius. His father's name was Seius Strabo; a Roman knight, commander of the pretorian guards. His mother was descended from the Junian family. Sejanus first gained the favours of Caius Cæsar, the grandson of Augustus, but afterwards he attached himself to the interest and the views of Tiberius, who then sat on the imperial throne. The emperor, who was naturally of a suspicious temper, was free and open with Sejanus, and while he distrusted others, he communicated his greatest secrets to this fawning favourite. Sejanus improved this confidence; and when he had found that he possessed the esteem of Tiberius, he next endeavoured to become the favourite of the soldiers, and the darling of the senate. As commander of the pretorian guards he was the second man in Rome, and in that important office he made use of insinuations and every mean artifice to make himself beloved and revered. His affability and condescension gained him the hearts of the common soldiers, and, by appointing his own favourites and adherents to places of trust and honour, all the officers and centurions of the army became devoted to his interest. The views of Sejanus in this were well known; yet, to advance with more success, he attempted to gain the affection of the senators. In this he met with no opposition. A man who has the disposal of places of honour and dignity, and who has the command of the public money, cannot but be the favourite of those who are in need of his assistance. It is even said, that Sejanus gained to his views all the wives of the senators, by a private and most secret promise of marriage to each of them, whenever he had made himself independent and sovereign of Rome. Yet, however successful with the best and noblest families in the empire, Sejanus had to combat numbers in the house of the emperor; but these seeming obstacles were soon removed. All the children and grandchildren of Tiberius were sacrificed to the ambition of the favourite under various pretences; and Drusus the son of the emperor, by striking Sejanus, made his destruction sure and inevitable. Livia, the wife of Drusus, was gained by Sejanus; and, though the mother of many children, she was prevailed upon to assist her adulterer in the murder of her husband, and she consented to marry him when Drusus was dead. No sooner was Drusus poisoned, than Sejanus openly declared his wish to marry Livia. This was strongly opposed by Tiberius; and the emperor, by recommending Germanicus to the senators for his successor, rendered Sejanus bold and determined. He was more urgent in his demands; and when he could not gain the consent of the emperor, he persuaded him to retire to solitude from the noise of Rome and the troubles of the government. Tiberius, naturally fond of ease and luxury, yielded to his representations and retired to Campania, leaving Sejanus at the head of the empire. This was highly gratifying to the favourite, but he was not without a master. Prudence and moderation might have made him what he wished to be; but having offended the emperor beyond forgiveness, he resolved to retrieve his loss, and by one vigorous effort to decide the fate of the empire. He called together his friends and followers; he paid

court

Townsend's
Journey
through
Spain.

Lempriere's
Dictionary.

Sejanus.

Murphy's
Tacitus,
Book v.

court to such as seemed disaffected; he held forth rewards and promises; and, having increased the number of his partisans, formed a bold conspiracy, resolved by any means to seize the sovereign power.

A powerful league was formed with astonishing rapidity, and great numbers of all descriptions, senators as well as military men, entered into the plot. Among these, Satrius Secundus was the confidential friend and prime agent of the minister. Whatever was this man's motive, whether fear, or views of interest, or ingratitude (for no principle of honour can be imputed to him), he resolved to betray the secret to Tiberius. For this purpose he addressed himself to Antonia, the daughter of Anthony the triumvir, the widow of Drusus, and the mother of Germanicus. When this illustrious woman, who was honoured by the court and revered by the people, heard the particulars, she sent dispatches to the emperor by one of her slaves. Tiberius was astonished, but not dismayed. The danger pressed; his habitual slowness was out of season; the time called for vigour and decisive measures. He sent Macro to Rome, with a special commission to take upon him the command of the prætorian guards. He added full instructions for his conduct in all emergencies. Early in the morning on the 15th, before the kalends of November, a report was spread, that letters had arrived at Rome, in which the emperor signified his intention to associate Sejanus with himself in the tribunitian power. The senate was summoned to meet in the temple of Apollo, near the imperial palace. Sejanus attended without delay. A party of the prætorians followed him. Macro met him in the vestibule of the temple. He approached the minister with all demonstrations of profound respect, and taking him aside, "Be not surprised (he said) that you have no letter from the prince: it is his pleasure to declare you his colleague in the tribunitian power; but he thinks that a matter of so much importance should be communicated to the fathers by the voice of the consuls. I am going to deliver the emperor's orders." Sejanus, elated with joy, and flushed with his new dignity, entered the senate-house; Macro followed him. As soon as the consuls arrived, he delivered the letter from Tiberius, and immediately went forth to the prætorian guards. He informed them, that by order of the prince, a large donative was to be distributed among the soldiers. He added, that, by a new commission, he himself was appointed their commanding officer; and, if they followed him to the camp, they would there receive the promised bounty. The lure was not thrown out in vain: the prætorian guards quitted their station. Laco, who stood near at hand, immediately surrounded the senate-house with a body of the city cohorts.

The letter to the consuls was confused, obscure, and tedious, only glancing at Sejanus, till at last the language of invective left no room for doubt. Sejanus kept his seat like a man benumbed, senseless and stupid with astonishment. His friends, who a little before congratulated him on his new dignity, deserted him on every side. He was commanded by the consul to rise and follow him, and being loaded with irons, was conducted to prison. His downfall filled the city with exultation. The populace, who worshipped him in the hour of prosperity, rejoiced to see the sad catastrophe to which he was now reduced. They followed in crowds,

rending the air with shouts, and pouring forth a torrent of abuse and scurrilous language. The prisoner endeavoured to hide his face; but the mob delighted to see remorse and shame and guilt and horror in every feature of his distracted countenance. They reviled him for his acts of cruelty; they laughed at his wild ambition; they tore down his images, and dashed his statues to pieces. He was doomed by Tiberius to suffer death on that very day; but, as he had a powerful faction in the senate, it was not thought advisable, for the mere formality of a regular condemnation, to hazard a debate. Private orders were given to Macro to dispatch him without delay; but the consul, seeing the dispositions of the people, and the calm neutrality of the prætorian guards, judged it best to re-assemble the fathers. They met in the temple of Concord. With one voice Sejanus was condemned to die, and the sentence was executed without delay. He was strangled in the prison. His body was dragged to the Gemoniæ, and, after every species of insult from the populace, at the end of three days was thrown into the Tiber. Such was the tragic end of that ambitious favourite. He fell a terrible example to all, who, in any age or country, may hereafter endeavour by their vices to rise above their fellow-citizens.

SEIGNIOR, is, in its general signification, the same with *lord*; but is particularly used for the lord of the fee as of a manor, as *seigneur* among the feudists is he who grants a fee or benefit out of the land to another; and the reason is, because having granted away the use and profit of the land, the property or dominion he still retains in himself.

SEIGNIORAGE, is a royalty or prerogative of the king, whereby he claims an allowance of gold and silver bought in the marts to be exchanged for coin. As seigniorage, out of every pound weight of gold, the king had for his coin 5 s. of which he paid to the master of the mint sometimes 1 s. and sometimes 1 s. 6 d. Upon every pound weight of silver, the seigniorage answered to the king in the time of Edward III. was 18 pennyweights, which then amounted to about 1 s. out of which he sometimes paid 8 d. at others 9 d. to the master. In the reign of king Henry V. the king's seigniorage of every pound of silver was 15 d. &c.

SEIGNIORY, is borrowed from the French *seigneurie*, i. e. *dominatus*, *imperium*, *principatus*; and signifies with us a manor or lordship, *seigniorie de sokemans*. *Seigniorie in gross*, seems to be the title of him who is not lord by means of any manor, but immediately in his own person; as *tenure in capite*, whereby one holds of the king as of his crown, is *seigniorie in gross*.

SEIKS. See HINDOSTAN, p. 530.

SEISIN, in law, signifies possession. In this sense we say, *premier seisin*, for the first possession, &c.

Seisin is divided into that *in deed* or *in fact*, and that *in law*. A seisin *in deed* is where a possession is actually taken: but a seisin *in law* is, where lands descend, and the party has not entered thereon; or in other words, it is where a person has a right to lands, &c. and is by wrong disseised of them. A seisin *in law* is held to be sufficient to avow on; though to the bringing of an assize, actual seisin is required; and where seisin is alleged, the person pleading it must show of what estate he is seised, &c.

Seisin of a superior service is deemed to be a seisin

Seignior

Seisin.

Seisin. of all superior and casual services that are incident thereto; and *seisin* of a lessee for years, is sufficient for him in reversion.

Livery of SEISIN, in law, an essential ceremony in the conveyance of landed property; being no other than the pure feudal investiture, or delivery of corporal possession of the land or tenement. This was held absolutely necessary to complete the donation; *Nam feudum sine investitura nullo modo constitui potuit*: and an estate was then only perfect when, as Fleta expresses it in our law, *sit juris et seisinæ conjunctio*. See FEODMENT.

Investitures, in their original rise, were probably intended to demonstrate in conquered countries the actual possession of the lord; and that he did not grant a bare litigious right, which the soldier was ill qualified to prosecute, but a peaceable and firm possession. And, at a time when writing was seldom practised, a mere oral gift, at a distance from the spot that was given, was not likely to be either long or accurately retained in the memory of bystanders, who were very little interested in the grant. Afterwards they were retained as a public and notorious act, that the country might take notice of and testify the transfer of the estate; and that such as claimed title by other means might know against whom to bring their actions.

In all well-governed nations, some notoriety of this kind has been ever held requisite, in order to acquire and ascertain the property of lands. In the Roman law, *plenum dominium* was not said to subsist unless where a man had both the *right* and the *corporal possession*; which possession could not be acquired without both an actual intention to possess, and an actual *seisin*, or entry into the premises, or part of them in the name of the whole. And even in ecclesiastical promotions, where the freehold passes to the person promoted, corporal possession is required at this day to vest the property completely in the new proprietor; who, according to the distinction of the canonists, acquires the *jus ad rem*, or inchoate and imperfect right, by nomination and institution; but not the *jus in re*, or complete and full right, unless by corporal possession. Therefore in dignities possession is given by instalment; in rectories and vicarages by induction; without which no temporal rights accrue to the minister, though every ecclesiastical power is vested in him by institution. So also even in descents of lands, by our law, which are cast on the heir by act of the law itself, the heir has not *plenum dominium*, or full and complete ownership, till he has made an actual corporal entry into the lands: for if he dies before entry made, his heir shall not be entitled to take the possession, but the heir of the person who was last actually seised. It is not therefore only a mere right to enter, but the actual entry, that makes a man complete owner; so as to transmit the inheritance to his own heirs: *non jus, sed seisinam, facit stipitem*.

Yet the corporal tradition of lands being sometimes inconvenient, a symbolical delivery of possession was in many cases anciently allowed; by transferring something near at hand, in the presence of credible witnesses, which by agreement should serve to represent the very thing designed to be conveyed; and an occupancy of this sign or symbol was permitted as equivalent to occupancy of the land itself. Among the Jews we find the evidence of a purchase thus defined in the

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Seisin. book of Ruth; "Now this was the manner in former time in Israel, concerning redeeming and concerning changing, for to confirm all things: a man plucked off his shoe, and gave it to his neighbour; and this was a testimony in Israel." Among the ancient Goths and Swedes, contracts for the sale of lands were made in the presence of witnesses, who extended the cloak of the buyer, while the seller cast a clod of the land into it, in order to give possession; and a staff or wand was also delivered from the vender to the vendee, which passed through the hands of the witnesses. With our Saxon ancestors the delivery of a turf was a necessary solemnity to establish the conveyance of lands. And, to this day, the conveyance of our copyhold estates is usually made from the seller to the lord or his steward by delivery of a rod or verge, and then from the lord to the purchaser by re-delivery of the same in the presence of a jury of tenants.

Conveyances in writing were the last and most refined improvement. The mere delivery of possession, either actual or symbolical, depending on the ocular testimony and remembrance of the witnesses, was liable to be forgotten or misrepresented, and became frequently incapable of proof. Besides, the new occasions and necessities introduced by the advancement of commerce, required means to be devised of charging and incumbering estates, and of making them liable to a multitude of conditions and minute designations, for the purposes of raising money, without an absolute sale of the land; and sometimes the like proceedings were found useful in order to make a decent and competent provision for the numerous branches of a family, and for other domestic views. None of which could be effected by a mere, simple, corporal transfer of the soil from one man to another, which was principally calculated for conveying an absolute unlimited dominion. Written deeds were therefore introduced, in order to specify and perpetuate the peculiar purposes of the party who conveyed: yet still, for a very long series of years, they were never made use of, but in company with the more ancient and notorious method of transfer by delivery of corporal possession.

Livery of *seisin*, by the common law, is necessary to be made upon every grant of an estate of freehold in hereditaments corporeal, whether of inheritance or for life only. In hereditaments incorporeal it is impossible to be made; for they are not the object of the senses: and in leases for years, or other chattel interests, it is not necessary. In leases for years indeed an actual entry is necessary, to vest the estate in the lessee: for a bare lease gives him only a right to enter, which is called his interest in the term, or *interesse termini*: and when he enters in pursuance of that right, he is then, and not before, in possession of his term, and complete tenant for years. This entry by the tenant himself serves the purpose of notoriety, as well as livery of *seisin* from the granter could have done; which it would have been improper to have given in this case, because that solemnity is appropriated to the conveyance of a freehold. And this is one reason why freeholds cannot be made to commence *in futuro*, because they cannot (at the common law) be made but by livery of *seisin*; which livery, being an actual manual tradition of the land, must take effect *in presenti*, or not at all.

Livery of *seisin* is either in *deed* or in *law*.

Li

Livery

Seisin,
Seize.

Livery in deed is thus performed. The feoffor, lessor, or his attorney, together with the feoffee, lessee, or his attorney, (for this may as effectually be done by deputy or attorney as by the principals themselves in person), come to the land or to the house; and there, in the presence of witnesses, declare the contents of the feoffment or lease on which livery is to be made. And then the feoffor, if it be of land, doth deliver to the feoffee, all other persons being out of the ground, a clod or turf, or a twig or bough there growing, with words to this effect: "I deliver these to you in the name of seisin of all the lands and tenements contained in this deed." But, if it be of a house, the feoffor must take the ring or latch of the door, the house being quite empty, and deliver it to the feoffee in the same form; and then the feoffee must enter alone, and shut the door, and then open it, and let in the others. If the conveyance or feoffment be of divers lands, lying scattered in one and the same county, then in the feoffor's possession, livery of seisin of any parcel, in the name of the rest, sufficeth for all; but if they be in several counties, there must be as many liveries as there are counties. For, if the title to these lands comes to be disputed, there must be as many trials as there are counties, and the jury of one county are no judges of the notoriety of a fact in another. Besides, anciently, this seisin was obliged to be delivered *coram paribus de vicineto*, before the peers or freeholders of the neighbourhood, who attested such delivery in the body or on the back of the deed; according to the rule of the feudal law, *Parēs debent interesse investitura feudi, et non alii*: for which this reason is expressly given; because the peers or vassals of the lord, being bound by their oath of fealty, will take care that no fraud be committed to his prejudice, which strangers might be apt to connive at. And though afterwards the ocular attestation of the *parēs* was held unnecessary, and livery might be made before any credible witnesses, yet the trial, in case it was disputed, (like that of all other attestations), was still reserved to the *parēs* or jury of the county. Also, if the lands be out on lease, though all lie in the same county, there must be as many liveries as there are tenants: because no livery can be made in this case, but by the consent of the particular tenant; and the consent of one will not bind the rest. And in all these cases it is prudent, and usual, to endorse the livery of seisin on the back of the deed, specifying the manner, place, and time of making it; together with the names of the witnesses. And thus much for livery in deed.

Livery in law is where the same is not made on the land, but in sight of it only; the feoffor saying to the feoffee, "I give you yonder land, enter and take possession." Here, if the feoffee enters during the life of the feoffor, it is a good livery, but not otherwise; unless he dares not enter through fear of his life or bodily harm; and then his continual claim, made yearly in due form of law, as near as possible to the lands, will suffice without an entry. This livery in law cannot, however, be given or received by attorney, but only by the parties themselves.

SEIZE, in the sea-language, is to make fast or bind, particularly to fasten two ropes together with rope-yarn. The seizing of a boat is a rope tied to a ring or little chain in the fore-ship of the boat, by which means it is fastened to the side of the ship.

SEIZURE, in commerce, an arrest of some merchandise, moveable, or other matter, either in consequence of some law or of some express order of the sovereign. Contraband goods, those fraudulently entered, or landed without entering at all, or at wrong places, are subject to seizure. In seizures among us, one half goes to the informer, and the other half to the king.

SELAGO, in botany: A genus of the angiospermia order, belonging to the didynamia class of plants; and in the natural method ranking under the 48th order, *Aggregatiæ*. The calyx is quinquefid: the tube of the corolla capillary, with the limb nearly equal, and a single seed. There are 22 species.

SELDEN (John), called by Grotius *the glory of England*, was born at Salvington in Suffex in 1584. He was educated at the free-school at Chichester; whence he was sent to Hart-Hall in the university of Oxford, where he staid four years. In 1611, he entered himself in Clifford's Inn, in order to study the law; and about two years after removed to the Inner Temple, where he soon acquired great reputation by his learning. He had already published several of his works; and this year wrote verses in Latin, Greek, and English, upon Mr William Browne's *Britannia's Pastorals*. In 1614, he published his *Titles of Honour*; and in 1616, his *Notes on Sir John Fortescue's book De Laudibus Legum Angliæ*. In 1618, he published his *History of Tythes*; which gave great offence to the clergy, and was animadverted upon by several writers; and for that book he was called before the high commission court, and obliged to make a public acknowledgment of his sorrow for having published it. In 1621, being sent for by the parliament, though he was not then a member of that house, and giving his opinion very strongly in favour of their privileges in opposition to the court, he was committed to the custody of the sheriff of London, but was set at liberty after five weeks confinement. In 1623, he was chosen burgess for Lancaster; but, amidst all the divisions of the nation, kept himself neuter, prosecuting his studies with such application, that though he was the next year chosen reader of Lyon's Inn, he refused to perform that office. In 1625, he was chosen burgess for Great Bedwin in Wiltshire, to serve in the first parliament of king Charles I. in which he declared himself warmly against the duke of Buckingham; and on his Grace's being impeached by the House of Commons, was appointed one of the managers of the articles against him. In 1627 and 1628, he opposed the court party with great vigour. The parliament being prorogued to January 20. 1629, Mr Selden retired to the earl of Kent's house at Wrest, in Bedfordshire, where he finished his *Marmora Arundeliana*. The parliament being met, he, among others, again distinguished himself by his zeal against the court; when the king dissolving the parliament, ordered several of the members to be brought before the King's-Bench bar, and committed to the Tower. Among these was Mr Selden, who insisting on the benefit of the laws, and refusing to make his submission, was removed to the King's Bench prison. Being here in danger of his life on account of the plague then raging in Southwark, he petitioned the lord high treasurer, at the end of Trinity-term, to intercede with his Majesty that he might be removed to the Gate-House, Westminster, which was granted: but in Michaelmas term following, the judges objecting to the lord treasurer's warrant, by which he had

Seizure
||
Selden.

Selden,
Selenites.

had been removed to the Gate-house, an order was made for conveying him back to the King's Bench, whence he was released in the latter end of the same year; but fifteen years after, the parliament ordered him 5000 l. for the losses he had sustained on this occasion. He was afterwards committed, with several other gentlemen, for dispersing a libel; but the author, who was abroad, being discovered, they were at length set at liberty. In 1634, a dispute arising between the English and Dutch concerning the herring-fishery on the British coast, he was prevailed upon by archbishop Laud to draw up his *Mare Clausum*, in answer to Grotius's *Mare Liberum*: which greatly recommended him to the favour of the court. In 1640, he was chosen member for the university of Oxford; when he again opposed the court, though he might, by complying, have raised himself to very considerable posts. In 1643, he was appointed one of the lay-members to sit in the assembly of divines at Westminster, and was the same year appointed keeper of the records in the Lower. Whilst he attended his duty in the assembly, a warm debate arose respecting the distance of Jericho from Jerusalem. The party which contended for the shortest distance, urged, as a proof of their opinion being well founded, that fishes were carried from the one city to the other, and sold in the market. Their adversaries were ready to yield to the force of this conclusive argument, when Selden, who despised both parties, as well as the frivolousness of their dispute, exclaimed, "Perhaps the fishes were salted!" This unexpected remark left the victory doubtful, and renewed the debate; and our author, who was sick of such trifling, soon found employment more suited to his genius; for, in 1645, he was made one of the commissioners of the admiralty. The same year he was unanimously elected master of Trinity-college, Cambridge; but declined accepting. He died in 1654; and was interred in the Temple-church, where a monument is erected to his memory. Dr Wilkes observes, that he was a man of uncommon gravity and greatness of soul, averse to flattery, liberal to scholars, charitable to the poor; and though he had great latitude in his principles with regard to ecclesiastical power, yet he had a sincere regard for the church of England. He wrote many learned works besides those already mentioned; the principal of which are, 1. *De Jure Naturali & Gentium juxta Disciplinam Hebræorum*. 2. *De Nuptiis & Divorciis*. 3. *De Anno Civili veterum Hebræorum*. 4. *De Nummis*. 5. *De Diis Syris*. 6. *Uxor Hebræica*. 7. *Jani Anglorum Facies altera, &c.* All his works were printed together in 1726, in 3. vols folio.

SELENITES, in natural history, the name of a large class of fossils, the characters of which are these: they are bodies composed of slender and scarce visible filaments, arranged into fine, even, and thin flakes; and those disposed into regular figures, in the several different genera, approaching to a rhomboide, or hexangular column, or a rectangled parallelogram; fissile, like the talcs, but they not only lie in a horizontal, but also in a perpendicular direction: they are flexile in a small degree, but not at all elastic; they do not ferment with acid menstrua, but readily calcine in the fire. Of this class there are seven orders of bodies, and under those ten genera. The selenitæ of the first order are those composed of horizontal plates, and approaching to a rhomboidal form: of the second are those composed of

form: of the third are those whose filaments are scarce visibly arranged into plates, but which, in the whole masses, appear rather of a striated than of a tubulated structure: of the fourth are those which are flat, but of no determinately angular figure: of the fifth are those formed of plates, perpendicularly arranged: of the sixth are those formed of congeries of plates, arranged into the figure of a star; and of the seventh are those of a complex and indeterminate figure.

Of the first of these orders there are three genera. 1. The *leptodecarbombes*. 2. The *pachodecarbombes*. 3. The *tetradecarbombes*. Of the second order there are also three genera. 1. The *ischnamblyces*. 2. The *isamblyces*. 3. The *oxucia*. Of the third order there is only one known genus, the *inamblycia*. Of the fourth order there is also only one known genus, the *sanidia*. Of the fifth order there is also only one known genus, the *cathetolipes*. Of the sixth order, there are two genera. 1. The *lepastra*.—2. The *trichestra*. Of the seventh order there is only one genus, the *symplexia*.

The structure of the selenitæ of all the genera of the first order is exactly alike; they are all composed of a great number of broad flakes or plates, in a great measure externally resembling the flakes of the foliaceous talcs: these are of the length and breadth of the whole mass; the top and bottom being each only one such plate, and those between them, in like manner, each complete and single; and the body may always be easily and evenly split, according to the direction of these flakes. These differ, however, extremely from the talcs, for they are each composed of a number of parallel threads or filaments, which are usually disposed parallelly to the sides of the body, though sometimes parallelly to its ends. In many of the species, they are also divided by parallel lines, placed at a considerable distance from each other, and the plates in splitting often break at these lines; add to this, that they are not elastic, and that they readily calcine. The structure of those of the second order is the same with that of the first; but that in many of the specimens of them the filaments of which the plates are composed run in two directions, and meet in an obtuse angle; and in the middle there is generally seen in this case a straight line running the whole length of the column and small parcels of clay insinuating themselves into this crack, represent in it the figure of an ear of grass so naturally, as to have deceived many into a belief that there was really an ear of grass there. The other orders consisting only of single genera, the structure of each is explained under the generical name.

SELENITES, in chemistry, called also *gypsum spatiosum*, a species of gypsum or plaster of Paris. See GYPSUM.

SELENOGRAPHY, a branch of cosmography, which describes the moon and all the parts and appearances thereof, as geography does those of the earth. See MOON.

SELEUCIA, (anc. geogr.), surnamed *Babylonia*, because situated on its confines, at the confluence of the Euphrates and Tigris. Ptolemy places it in Mesopotamia. It is called also *Seleucia ad Tigrim*, (Polybius, Strabo, Isidorus, Characenus); washed on the south by the Euphrates, on the east by the Tigris, (Theophylactus); generally agreed to have been built or enlarged by Seleucus Nicanor, master of the east after Alexander; by means of which Babylon came to be deserted.

Selenites,
Seleucia,

Seleucidæ

Self.

It is said to have been originally called *Coebe*, (Ammian, Eutropius); though others, as Arrian, distinguish it, as a village, from *Selucia*: and, according to Zosimus, the ancient name of Selucia was *Zochasia*. Now called *Bagdad*. E. Long. 44. 21. N. Lat. 33. 10. There were many other cities of the same name, all built by Seleucus Nicanor.

SELEUCIDÆ, in chronology. Era of the Seleucidæ, or the Syro-Macedonian era, is a computation of time, commencing from the establishment of the Seleucidæ, a race of Greek kings, who reigned as successors of Alexander the Great in Syria, as the Ptolemies did in Egypt. This era we find expressed in the books of the Maccabees, and on a great number of Greek medals struck by the cities of Syria, &c. The Rabbins call it the *era of contracts*, and the Arabs *therik dikharnain*, that is, the "era of the two horns." According to the best accounts, the first year of this era falls in the year 311 B. C. being 12 years after Alexander's death.

SELEUCUS (Nicanor), one of the chief generals under Alexander the Great, and, after his death, founder of the race of princes called *Seleucidæ*. He is equally celebrated as a renowned warrior, and as the father of his people; yet his virtues could not protect him from the fatal ambition of Ceraunus, one of his courtiers, by whom he was assassinated 280 B. C.

SELF HEAL, the *PRUNELLA VULGARIS* of Linnaeus. The stem is erect, and about eight or ten inches high. The leaves grow on foot stalks, are ovato-oblong, slightly indented, and somewhat hairy. The bractæ are heart-shaped, opposite, and fringed. The flowers are white or purplish, grow in dense spikes, and are terminal. This plant is perennial, grows wild in meadows and pasture grounds, and flowers in June and July.

This herb is recommended as a mild restraining and vulnerary in spittings of blood, and other hemorrhagies and fluxes; and in gargarisms against aphthæ and inflammations of the fauces. Its virtues do not appear to be very great; to the taste it discovers a very slight austerity or bitterishness, which is more sensible in the flowery tops than in the leaves, though the latter are generally directed for medicinal use.

SELF-Command, is that steady equanimity which enables a man in every situation to exert his reasoning faculty with coolness, and to do what the present circumstances require. It depends much upon the natural temperament of the body, and much upon the moral cultivation of the mind. He who enjoys good health, and has braced his frame by exercise, has always a greater command of himself than a man of equal mental powers, who has suffered his constitution to become relaxed by indolence; and he who has from his early youth been accustomed to make his passions submit to his reason, must, in any sudden emergency, be more capable of acting properly than he who has tamely yielded to his passion. Hence it is that recluse and literary men, when forced into the bustle of public life, are incapable of acting where promptness is requisite; and that men who have once or twice yielded to a sense of impending danger seldom acquire afterwards that command of themselves which may be necessary to extricate them from subsequent dangers. In one of the earliest battles fought by the late king of Prussia, the sovereign was among the first men who quitted the field:

had he behaved in the same manner a second and a third time, he would never have become that hero whose actions astonished Europe. A celebrated engineer among ourselves, who was well known to the writer of this short article, had little science, and was a stranger to the principles of his own art; but being possessed of a firm and vigorous frame, and having been accustomed to struggle with dangers and difficulties, he had such a constant command of himself, as enabled him to employ with great coolness every necessary resource in the day of battle.

But it is not only in battle, and in the face of immediate danger, that self-command is necessary to enable a man to act with propriety. There is no situation in life where difficulties, greater or less, are not to be encountered; and he who would pass through life with comfort to himself, and with utility to the public, must endeavour to keep his passions in constant subjection to his reason. No man can enjoy without inquietude what he cannot lose without pain; and no man who is overwhelmed with despondency under any sudden misfortune can exert the talents necessary to retrieve his circumstances. We ought, therefore, by every means to endeavour to obtain a constant command of ourselves; and nowhere shall we find better lessons for this purpose than in ancient Lacedæmon. There certain occupations were appointed for each sex, for every hour, and for every season of life. In a life always active, the passions have no opportunity to deceive, seduce, or corrupt; and the nervous system acquires a firmness which makes it a fit instrument to a vigorous mind.

SELF-Defence implies not only the preservation of one's life, but also the protection of his property, because without property life cannot be preserved in a civilized nation. The extent of property essential to life is indeed small, and this consideration may enable us to decide a question which some moralists have made intricate. By what means, it has been asked, may a man protect his property? May he kill the person who attacks it, if he cannot otherwise repel the attack?

That a man, in the state of nature, may kill the person who makes an attack on his life, if he cannot otherwise repel the attack, is a truth which has never been controverted; and he may do the same in civil society, if his danger be so imminent that it cannot be exerted by the interposition of the protection provided for individuals by the state. In all possible situations, except the three following, whatever is absolutely necessary to the preservation of life may be lawfully performed, for the law of self-preservation is the first and most sacred of those laws which are impressed upon every mind by the author of nature.

The three excepted situations are those of a foldier in the day of battle, of a criminal about to suffer by the laws of his country, and of a man called upon to renounce his religion. The soldier hazards his life in the most honourable of all causes, and cannot betray his trust, or play the coward, without incurring a high degree of moral turpitude. He knows that the very profession in which he is engaged necessarily subjects him to danger; and he voluntarily incurred that danger for the good of his country, which, with great propriety, annexes to his profession peculiar privileges and much glory. The criminal under sentence of death cannot, without adding to his guilt, resist the execution of that

sentence,

Lewi's
Materia
Medica.

Self.

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sentence; for the power of inflicting punishment is essential to society, and society is the ordinance of God, (see SOCIETY). The man who is called upon to renounce his religion ought to submit to the cruellest death rather than comply with that request, since religion is his only security for future and permanent happiness. But in every other situation, that which is absolutely necessary to the preservation of life is undoubtedly lawful. Hence it is, that a person sinking in water is never thought to be guilty of any crime, though he drag his neighbour after him by his endeavours to save himself; and hence, too, a man in danger of perishing by shipwreck may drive another from a plank which cannot carry them both, for since one of two lives must be lost, no law, human or divine, calls upon either of them to prefer his neighbour's life to his own.

But though the rights of self-defence authorise us to repel every attack made upon our life, and in cases of extremity to save ourselves at the expence of the life of our innocent neighbour, it is not so evident that, rather than give to an unjust demand a few shillings or pounds, we may lawfully deprive a fellow creature of life, and the public of a citizen. A few pounds lost may be easily regained; but life when lost can never be recovered. If these pounds, indeed, be the whole of a man's property; if they include his clothes, his food, and the house where he shelters his head—there cannot be a doubt but that, rather than part with them, he may lawfully kill the aggressor, for no man can exist without shelter, food, and raiment. But it is seldom that an attempt is made, or is indeed practicable, to rob a man at once of all that he possesses. The question then of any importance is, May a man put a robber to death rather than part with a small part of his property? Mr Paley doubts whether he could innocently do so in a state of nature, “because it cannot be contended to be for the augmentation of human happiness, that one man should lose his life or limb, rather than another a pennyworth of his property.” He allows, that in civil society the life of the aggressor may be always taken away by the person aggrieved, or meant to be aggrieved, when the crime attempted is such as would subject its perpetrator to death by the laws of his country.

It is not often that we feel ourselves disposed to differ in opinion from this most valuable and intelligent writer; but on the present occasion we cannot help thinking that he does not reason with his usual precision. To us he even seems to lose sight of his own principles. No legislature can have a right to take away life in civil society, but in such cases as individuals have the same right in a state of nature. If therefore a man, in the state of nature, have not a right to protect his property by killing the aggressor, when it cannot be otherwise protected, it appears to us self-evident that no legislature can have a right to inflict the punishment of death upon such offences; but if the laws inflicting death upon the crime of robbery be morally evil, it is certain that an individual cannot be innocent when he prevents robbery by the death of the robber, merely because he knows that the laws of his country have decreed that punishment against those convicted of that crime. But we think that the protection of property by the death of the aggressor may be completely vindicated upon more general principles. It is necessary, in every state, that property be protected, or mankind

could not subsist; but in a state of nature every man must be the defender of his own property, which in that state must necessarily be small: and if he be not allowed to defend it by every mean in his power, he will not long be able to protect it at all. By giving him such liberty, a few individuals may, indeed, occasionally lose their lives and limbs for the preservation of a very small portion of private property; but we believe that the sum of human happiness will be more augmented by cutting off such worthless wretches than by exposing property to perpetual depredation; and therefore, if general utility be the criterion of moral good, we must be of opinion that a man may in every case lawfully kill a robber rather than comply with his unjust demand.

But if a man may without guilt preserve his property by the death of the aggressor, when it cannot be preserved by any other means, much more may a woman have recourse to the last extremity to protect her chastity from forcible violation. This, indeed, is admitted by Mr Paley himself, and will be controverted by no man who reflects on the importance of the female character, and the probable consequences of the smallest deviation from the established laws of female honour. See SEDUCTION.

SELF-Knowledge, the knowledge of one's own character, abilities, opinions, virtues, and vices. This has always been considered as a difficult though important acquisition. It is difficult, because it is disagreeable to investigate our errors, our faults, and vices; because we are apt to be partial to ourselves, even when we have done wrong; and because time and habitual attention are requisite to enable us to discover our real character. But these difficulties are more than counterbalanced by the advantages of self-knowledge.

By knowing the extent of our abilities, we shall never rashly engage in enterprises where our ineffectual exertions may be productive of harm: by investigating our opinions, we may discover those which have no foundation, and those also which lead us insensibly into vice. By examining our virtues and vices, we shall learn what principles ought to be strengthened, and what habits ought to be removed.

Man is a rational and intelligent being, capable of great improvement, and liable to great vices. If he acts without examining his principles, he may be hurried by blind passion into crimes. If he aspires at noble and valuable acquisitions, he must act upon a plan, with deliberation and fore-thought; for he is not like a vegetable, which attains perfection by the influence of external causes: he has powers within himself which must be exerted, and exerted with judgment, in order to attain the perfection of his nature. To enable him to employ these powers aright, he must know, first, what is his duty; and, secondly, he must often review his principles and conduct, that he may discover whether he is performing his duty, or in what circumstances he has failed. When he finds that he has fallen into error and vice, he will naturally inquire what causes have produced this effect, that he may avoid the same for the time to come. This is the method by which every reformation in religion and science has been produced, and the method by which the arts have been improved. Before Lord Bacon introduced the new way of philosophizing, he must first have considered wherein true philosophy consisted; secondly, he must have inquired

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in what respects the ancient method of philosophizing was false or useless: and after determining these two points, he was qualified to describe the way by which the study of philosophy could be successfully pursued without deviating into hypothesis and error. Luther found out the errors of the church of Rome by comparing their doctrines with the Scriptures. But had this comparison never been made, the reformation could never have taken place. Without self-knowledge, or without that knowledge of our character which is derived from a comparison of our principles and conduct with a perfect standard of morality, we can never form plans and resolutions, or make any exertion to abandon the vicious habits which we have contracted, and strengthen those virtuous principles in which we are deficient.

As much may be learned from the errors of those who have been in similar situations with ourselves; so many useful cautions may be obtained from our own errors; and he that will remember these, will seldom be twice guilty of the same vice.

It was evidently the intention of Providence that man should be guided chiefly by experience. It is by the observations which we make on what we see passing around us, or from what we suffer in our own person, that we form maxims for the conduct of life. The more minutely therefore we attend to our principles, and the more maxims we form, we shall be the better fitted to attain moral perfection.

With respect to our understanding, to mark the errors which we have fallen into, either by its natural defects or by negligence, is also of great importance; for the greatest genius and most profound scholar are liable to these errors, and often commit them as well as the weak and illiterate. But by observing them, and tracing them to their causes, they at length acquire an habitual accuracy. It is true, that men of feeble minds can never by knowing their own defects exalt themselves to the rank of genius; but such knowledge will enable them to improve their understandings, and so to appreciate their own powers, as seldom to attempt what is beyond their strength. They may thus become useful members of society; and though they will not probably be admired for their abilities, they will yet escape the ridicule which is poured upon vanity.

It is difficult to lay down precise rules for the acquisition of this self-knowledge, because almost every man is blinded by a fallacy peculiar to himself. But when one has got rid of that partiality which arises from self-love, he may easily form a just estimate of his moral improvements, by comparing the general course of his conduct with the standard of his duty; and if he has any doubt of the extent of his intellectual attainments, he will most readily discover the truth by comparing them with the attainments of others who have been most successful in the same pursuits. Should vanity arise in his mind from such a comparison, let him then compare the extent of his knowledge with what is yet to be known, and he will then be in little danger of thinking of himself more highly than he ought to think. See PREJUDICE and SELF-Partiality.

SELF-LOVE, is that instinctive principle which impels every animal, rational and irrational, to preserve its life and promote its own happiness. It is very generally confounded with selfishness; but we think that the one propensity is distinct from the other. Every man loves him-

self; but every man is not selfish. The selfish man grasps at all *immediate* advantages, regardless of the consequences which his conduct may have upon his neighbour. Self-love only prompts him who is actuated by it to procure to himself the greatest possible sum of happiness during the whole of his existence. In this pursuit the rational self-lover will often forego a present enjoyment to obtain a greater and more permanent one in reversion; and he will as often submit to a present pain to avoid a greater hereafter. Self-love, as distinguished from selfishness, always comprehends the whole of a man's existence, and in that extended sense of the phrase, we hesitate not to say that every man is a self-lover; for, with eternity in his view, it is surely not possible for the most disinterested of the human race not to prefer himself to all other men, if their future and everlasting interests could come into competition. This indeed they never can do; for though the introduction of evil into the world, and the different ranks which it makes necessary in society, put it in the power of a man to raise himself, in the present state, by the depression of his neighbour, or by the practice of injustice, yet in the pursuit of a prize which is to be gained only by sobriety, righteousness, and piety, there can be no rivalry among the different competitors. The success of one is no injury to another; and therefore, in this sense of the phrase, self-love is not only lawful, but absolutely unavoidable. It has been a question in morals, whether it be not likewise the incentive to every action, however virtuous or apparently disinterested?

Those who maintain the affirmative side of this question say, that the prospect of immediate pleasure, or the dread of immediate pain, is the only apparent motive to action in the minds of infants, and indeed of all who look not before them, and infer the future from the past. They own, that when a boy has had some experience, and is capable of making comparisons, he will often decline an immediate enjoyment which he has formerly found productive of future evil more than equivalent to all its good; but in doing so they think, and they think justly, that he is still actuated by the principle of self-love, pursuing the greatest good of which he knows himself to be capable. After experiencing that truth, equity, and benevolence in all his dealings is the readiest, and indeed the only certain, method of securing to himself the kindness and good offices of his fellow-creatures, and much more when he has learned that they will recommend him to the Supreme Being, upon whom depends his existence and all his enjoyments, they admit that he will practice truth, equity, and benevolence; but still, from the same principle, pursuing his own ultimate happiness as the object which he has always in view. The prospect of this great object will make him feel an exquisite pleasure in the performance of the actions which he conceives as necessary to its attainment, till at last, without attending in each instance to their consequences, he will, by the great associating principle which has been explained elsewhere (see METAPHYSICS, part 1st, chap. 1.) feel a refined enjoyment in the actions themselves, and perform them, as occasions offer, without deliberation or reflection. Such, they think, is the origin of benevolence itself, and indeed of every virtue.

Those who take the other side of the question, can hardly deny that self-love thus modified may prompt to vir-

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virtuous and apparently disinterested conduct; but they think it degrading the dignity of man to suppose him actuated solely by motives which can be traced back to a desire of his own happiness. They observe, that the Author of our nature has not left the preservation of the individual, or the continuance of the species, to the deductions of our reason, computing the sum of happiness which the actions necessary to these ends produce to ourselves: on the contrary, He has taken care of both, by the surer impulse of instinct planted in us for these very purposes. And is it conceivable, say they, that He would leave the care of our fellow-creatures a matter of indifference, till each man should be able to discover or be taught that by loving his neighbour, and doing him all the good in his power, he would be most effectually promoting his own happiness? It is dishonouring virtue, they continue, to make it proceed in any instance from a prospect of happiness, or a dread of misery; and they appeal from theory to fact, as exhibited in the conduct of savage tribes, who deliberate little on the consequences of their actions.

Their antagonists reply, that the conduct of savage tribes is to be considered as that of children in civilized nations, regulated entirely by the examples which they have before them; that their actions cannot be the offspring of innate instincts, otherwise savage virtues would, under similar circumstances, everywhere be the same, which is contrary to fact; that virtue proceeds from an interested motive on either supposition; and that the motive which the instinctive scheme holds up is the most selfish of the two. The other theory supposes, that the governing motive is the hope of future happiness and the dread of future misery; the instinctive scheme supply a present motive in the self-complacency arising in the heart from a consciousness of right conduct. The former is a rational motive, the latter has nothing more to do with reason than the enjoyment arising from eating or drinking, or from the intercourse between the sexes. But we mean not to pursue the subject farther, as we have said enough on it in the articles BENEVOLENCE, INSTINCT, PASSION, and PHILANTHROPY. We shall therefore conclude with observing, that there is certainly a virtuous as well as a vicious self-love, and that "true self-love and social are the same."

SELF-Murder. See SUICIDE.

* See Lord
Kaimes's
Art of
Thinking.

SELF-Partiality, is a phrase employed by some philosophers* to express that weakness of human nature through which men overvalue themselves when compared with others. It is distinguished from general partiality, by those who make use of the expression, because it is thought that a man is led to over-rate his own accomplishments, either by a particular instinct, or by a process of intellect different from that by which he over-rates the accomplishments of his friends or children. The former kind of partiality is wholly selfish; the latter partakes much of benevolence.

This distinction may perhaps be deemed plausible by those who consider the human mind as little more than a bundle of instincts; but it must appear perfectly ridiculous to such as resolve the greater part of apparent instincts into early and deep-rooted associations of ideas. If the partialities which most men have to their friends, their families, and themselves, be instinctive, they are

certainly instincts of different kinds; but an instinctive partiality is a contradiction in terms. Partiality is founded on a comparison between two or more objects; but genuine instincts form no comparisons. See INSTINCT. No man can be said to be partial to the late Dr Johnson, merely for thinking highly of his intellectual powers; nor was the Doctor partial to himself, tho' he thought in this respect with the generality of his countrymen; but if, upon a comparison with Milton, he was deemed the greater poet of the two, such a judgment will be allowed to be partial, whether formed by himself or by any of his admirers. We apprehend, however, that the process of its formation was the same in every mind by which it was held.

The origin of self-partiality is not difficult to be found; and our partialities to our friends may be traced to a similar source. By the constitution of our nature we are impelled to shun pain and to pursue pleasure; but remorse, the severest of all pains, is the never-failing consequence of vicious conduct. Remorse arises from the dread of that punishment which we believe will in a future state be inflicted on vice unrepented of in this; and therefore every vicious person endeavours by all possible means to banish that dread from his own mind. One way of effecting this is to compare his own life with the lives of others; for he fancies that if numbers be as wicked as himself, the benevolent Lord of all things will not involve them in one common ruin. Hence, by magnifying to himself the temptations which led him astray, and diminishing the injuries which his conduct has done in the world, and by adopting a course diametrically the reverse, when estimating the morality or immorality of the conduct of his neighbours, he soon comes to believe that he is at least not more wicked than they. Thus is self-partiality formed in the mind, and quickly blinds him who is under its influence so completely, as to hide from him the very faults which he sees and blames in others. Hence the coward thinks himself only cautious, the miser frugal. Partiality is formed in the very same manner to natural or acquired accomplishments, whether mental or corporeal. These always procure respect to him who is possessed of them; and as respect is accompanied with many advantages, every man wishes to obtain it for himself. If he fail in his attempts, he consoles himself with the persuasion that it is at least due to his merits, and that it is only withheld by the envy of the public. He compares the particular branch of science or bodily accomplishment in which he himself most excels, with those which have conferred splendor on his rival; and easily finds that his own excellencies are of the highest order, and entitled to the greatest share of public esteem. Hence the polite scholar despises the mathematician; the reader of Aristotle and Plato all the modern discoveries in physical and moral science; and the mere experimentalist holds in the most sovereign contempt a critical knowledge of the ancient languages. The pupil of the ancients denies the merits of the moderns, whilst the mere modern allows nothing to the ancients; and thus each becomes partial to his own acquisitions, and of course to himself, for having been at the trouble to make them.

Partiality to our friends and families is generated in the very same way. Whenever we acquire such an af-

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fection for them as to consider their happiness as adding to our own (see *PASSION*), we magnify their excellencies, and diminish their defects, for the same reason, and by the same process, that we magnify and diminish our own. All partialities, however, are prejudices, and prejudices of the worst kind. They ought therefore to be guarded against with the utmost care, by the same means which we have elsewhere recommended (see *PREJUDICE* and *METAPHYSICS*, n° 98.); and he who is partial to his own virtue or his own knowledge, will do well to compare the former, not with the conduct of his neighbour, but with the express rule of his duty; and to consider the latter as no farther valuable than as it contributes to the sum of human happiness.

SELIM I. emperor of the Turks, was the second son of Bajazet II. He made war upon his father, and though defeated in 1511, he at last dethroned him and took him prisoner, and immediately dispatched him by poison, together with his elder brother Achmet, and his younger Korkud, an amiable and enlightened prince. Having established his throne by these crimes, he marched against Campson-Gaury sovereign of Egypt, gained a great victory at Aleppo, and slew their general. But though the sultan perished in that battle, the Mameluks determined to oppose the emperor. Selim entering their country at the head of his army, defeated the Egyptians in two battles, and ordered Toumonbai, the new elected sultan, who had fallen into his hands, to be hung on a gibbet. He then took Cairo and Alexandria, and in a short time reduced all Egypt to subjection. Thus ended the dominion of the Mameluks in Egypt, which had continued for more than 260 years. He confirmed the ancient privileges of the Venetians in Egypt and Syria, by which they carried on their commerce with India, and formed a league with them to destroy the power of the Portuguese in that country. (See *INDIA*, n° 37). Selim had before this gained a great victory over the Persians, and stripped them of Tauris and Keman. He was preparing to attack Christendom when he was seized with an ulcerous sore in the back. Thinking that the air of Adrianople would restore his health, he ordered himself to be conducted thither; but he died at Clari in Thrace on his road to that city, in the year 1520, in the very spot where he had poisoned his father. He reigned 8 years, and lived 54. He was a prince of great courage, sobriety, and liberality: he was fond of history, and wrote some verses. But these good qualities were obscured by the most abominable crimes that ever disgraced human nature: he made his way to the throne by shedding the blood of his father, and secured it by murdering his brothers and eight nephews, and every bashaw who had been faithful to his duty.

SELINUM, in botany: A genus of the digynia order, belonging to the pentandria class of plants; and in the natural method ranking under the 45th order, *Umbeliferæ*. The fruit is oval, oblong, compressed, plane, and striated in the middle: the involucre is reflexed; the petals cordate and equal. There are seven species, the sylvestre, palustre, custricum, carvifolia, chabraci, seguieri, monnieri.

SELKIRK (Alexander), whose adventures gave rise to a well-known historical romance, was born at Largo, in the county of Fife, about the year 1676, and was bred a seaman. He went from England, in

1703, in the capacity of sailing-master of a small vessel called the *Cinque-Ports Galley*, Charles Pickering captain, burthen about 90 tons, with 16 guns and 63 men; and in September the same year sailed from Corke, in company with another ship of 26 guns and 120 men, called the *St George*, commanded by that famous navigator William Dampier, intending to cruise on the Spaniards in the South Sea. On the coast of Brazil, Pickering died, and was succeeded in his command by his lieutenant Thomas Stradling. They proceeded on their voyage round Cape Horn to the island of Juan Fernandes, whence they were driven by the appearance of two French ships of 36 guns each, and left five of Stradling's men there on shore, who were taken off by the French. Hence they sailed to the coast of America, where Dampier and Stradling quarrelled, and separated by agreement, on the 19th of May 1704. In September following, Stradling came again to the island of Juan Fernandes, where Selkirk and his captain had a difference, which, with the circumstance of the ship's being very leaky, and in bad condition, induced him to determine on staying there alone; but when his companions were about to depart, his resolution was shaken, and he desired to be taken on board again. The captain, however, refused to admit him, and he was obliged to remain, having nothing but his clothes, bedding, a gun, and a small quantity of powder and ball; a hatchet, knife, and kettle; his books, and mathematical and nautical instruments. He kept up his spirits tolerably till he saw the vessel put off, when (as he afterwards related) his heart yearned within him, and melted at parting with his comrades and all human society at once.

“ — — Yet believe me, Arcas,
Such is the rooted love we bear mankind,
All ruffians as they were, I never heard
A sound so dismal as their parting oars.”

Thomson's Agamemnon.

Thus left sole monarch of the island, with plenty of the necessaries of life, he found himself in a situation hardly supportable. He had fish, goat's flesh, turnips and other vegetables; yet he grew dejected, languid, and melancholy, to such a degree as to be scarce able to refrain from doing violence to himself. Eighteen months passed before he could, by reasoning, reading his bible, and study, be thoroughly reconciled to his condition. At length he grew happy, employing himself in decorating his huts, chasing the goats, whom he equalled in speed, and scarcely ever failed of catching. He also tamed young kids, laming them to prevent their becoming wild; and he kept a guard of tame cats about him, to defend him when asleep from the rats, who were very troublesome. When his clothes were worn out, he made others of goats skins, but could not succeed in making shoes, with the use of which, however, habit, in time, enabled him to dispense. His only liquor was water. He computed that he had caught 1000 goats during his abode in the island; of which he had let go 500, after marking them by slitting their ears. Commodore Anson's people, who were there about 30 years after, found the first goat which they shot upon landing was thus marked, and as it appeared to be very old, concluded that it had been under the power of Selkirk. But it appears by captain Carteret's account of his voyage in the *Swallow* sloop, that other persons practised this mode of marking, as he found a

goat

Selkirk. goat with his ears thus slit on the neighbouring island of Mas-a-fuera, where Selkirk never was. He made companions of his tame goats and cats, often dancing and singing with them. Though he constantly performed his devotions at stated hours, and read aloud; yet, when he was taken off the island, his language, from disuse of conversation, was become scarcely intelligible. In this solitude he continued four years and four months; during which time only two incidents happened which he thought worth relating, the occurrences of every day being in his circumstances nearly similar. The one was, that, pursuing a goat eagerly, he caught it just on the edge of a precipice, which was covered with bushes, so that he did not perceive it, and he fell over to the bottom, where he lay (according to captain Roger's account) 24 hours senseless; but, as he related to Sir R. Steele, he computed, by the alteration of the moon, that he had lain three days. When he came to himself, he found the goat lying under him dead. It was with great difficulty that he could crawl to his habitation, whence he was unable to stir for ten days, and did not recover of his bruises for a long time. The other event was the arrival of a ship, which he at first supposed to be French; and such is the natural love of society in the human mind, that he was eager to abandon his solitary felicity, and surrender himself to them, although enemies; but upon their landing, approaching them, he found them to be Spaniards, of whom he had too great a dread to trust himself in their hands. They were by this time so near that it required all his agility to escape, which he effected by climbing into a thick tree, being shot at several times as he ran off. Fortunately the Spaniards did not discover him, though they stayed some time under the tree where he was hid, and killed some goats just by. In this solitude Selkirk remained until the 2d of February 1709, when he saw two ships come into the bay, and knew them to be English. He immediately lighted a fire as a signal; and on their coming on shore, found they were the Duke captain Rogers, and the Duchess captain Courtney, two privateers from Bristol. He gave them the best entertainment he could afford; and, as they had been a long time at sea without fresh provisions, the goats which he caught were highly acceptable. His habitation consisting of two huts, one to sleep in, the other to dress his food in, was so obscurely situated, and so difficult of access, that only one of the ship's officers would accompany him to it. Dampier, who was pilot on board the Duke, and knew Selkirk very well, told captain Rogers, that, when on board the Cinque-Ports, he was the best seaman on board that vessel; upon which captain Rogers appointed him master's mate of the Duke. After a fortnight's stay at Juan Fernandes, the ships proceeded on their cruise against the Spaniards; plundered a town on the coast of Peru; took a Manilla ship off California; and returned by way of the East Indies to England, where they arrived the 1st of October 1711; Selkirk having been absent eight years, more than half of which time he had spent alone in the island. The public curiosity being excited respecting him, he was induced to put his papers into the hands of Defoe, to arrange and form them into a regular narrative. These papers must have been drawn up after he left Juan Fernandes, as he had no means of recording his transactions there. Captain Cooke remarks, as an extraordinary circumstance, that he had

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contrived to keep an account of the days of the week and month: but this might be done, as Defoe makes Robinson Crusoe do, by cutting notches in a post, or many other methods. From this account of Selkirk, Defoe took the idea of writing a more extensive work, the romance of Robinson Crusoe, and very dishonestly defrauded the original proprietor of his share of the profits. Of the time or place or manner of this extraordinary man's death we have received no account; but in 1792 the chest and musket which Selkirk had with him on the island were in the possession of his grand-nephew, John Selkirk weaver in Largo, where doubtless they are at present.

SELKIRK, the capital of the county of the same name, is a small town pleasantly situated on a rising ground, and enjoys an extensive prospect in all directions, especially up and down the river Etterick. It is remarkable for nothing but those plaintive airs produced in its neighbourhood, the natural simplicity of which are the pride of Scotland and the admiration of strangers. W. Long. 2. 46. N. Lat. 55. 26.

SELKIRKSHIRE, called also the *Sheriffdom of Etterick Forest*, a county of Scotland, extending about 20 miles in length from east to west, and about 12 in breadth from south to north. It borders on the north with part of Tweeddale and Mid-Lothian; on the south and east with Teviotdale; and on the west with Annandale. This county was formerly reserved by the Scottish princes for the pleasure of the chace, and where they had houses for the reception of their train. At that time the face of the country was covered with woods, in which there were great numbers of red and fallow deer, whence it had the name of *Etterick Forest*. The woods, however, are now almost entirely cut down, and the county is chiefly supported by the breed of sheep. They are generally sold into the south, but sometimes into the Highlands, about the month of March, where they are kept during summer; and after being improved by the mountain-grass, are returned into the Lowlands in the beginning of winter.

This county, though not very populous at present, was once the nurse of heroes, who were justly accounted the bulwark of their native soil, being ever ready to brave danger and death in its defence. Of this we have a memorable proof in the pathetic lamentations of their wives and daughters for the disaster of the field of Flowden, "where their brave forefathers were a' wed away." The rivers Etterick and Yarrow unite a little above the town of Selkirk, and terminate in the Tweed. For five miles above its junction with the Etterick, the Tweed is still adorned with woods, and leads the pleased imagination to contemplate what this country must have been in former times. The Yarrow, for about five miles above its junction with Etterick, exhibits nature in a bold and striking aspect. Its native woods still remain, through which the stream has cut its turbid course, deeply ingulphed amidst rugged rocks. Here, certainly in a flood, stood the descriptive Thomson when he saw it

"Work and boil, and foam and thunder through."

Upon a peninsula, cut out by the surrounding stream, in the middle of this fantastically wild scene of grandeur and beauty, stands the castle of Newark, which has been supposed by many to be the birth-place of Mary Scot the flower of Yarrow; but this we believe to be a mistake.

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SELLA

*Selkirk,
Selkirk-
shire.*

*Statistical
Account of
Scotland,
vol. 2.*

Sella,
Seltzer.

SELLA TURCICA, is a deep depression between the clinoid apophyses of the sphenoid bone. See *ANATOMY*, p. 682.

SELTZER WATER, is a mineral water which springs up at Lower Seltzer, a village in the electorate of Triers, about 10 miles from Frankfort on the Mayne. It is a very useful medicinal water. It contains, according to some, a very small portion of calcareous earth, of a native mineral alkali, and an acid; but of these the quantity is too small to attribute any medicinal virtues to; but it contains also near 1.7th of its bulk of fixed air, which is more than is found in any other mineral water, and to this it owes its principal virtues. Others have said that it is of the very same nature with Pyrmont water, and contains a subtile aqueous fluid, a volatile iron, and a predominant alkali, all joined together into one brisk spirituous water. The consequence of these different opinions respecting its constituent parts is, that different methods have been recommended for imitating it.

According to the former analysis, artificial Seltzer water may be prepared by adding one scruple of magnesia alba, six scruples of fossil alkali, and four scruples of common salt, to each gallon of water, and saturating the water with fixed air or carbonic acid. According to the latter it may be imitated by adding to a quart of the purest and lightest water thirty drops of a strong solution of iron made in spirit of salt, a drachm of oil of tartar per deliquium, and thirty drops of spirit of vitriol, or a little more or less as is found necessary, not to let the alkali of the oil of tartar prevail too strongly, tho' it must prevail a little. If the proportions be carefully observed, and the whole of these ingredients shaken briskly together, the artificial Seltzer or Pyrmont water thus made will strongly resemble the natural, and have the same good effect in medicine.

But as fixed air is the only efficacious medicinal part of the composition of Seltzer water, the best method of imitating it is by impregnating common water with that acid by a process for which we are indebted to Dr Priestley. The first idea of this kind occurred to him in 1767, when, having placed shallow vessels of water within the region of fixed air, on the surface of the fermenting vessels of a brewery, and left them all night in that situation, he found that the water had acquired a very sensible and pleasant impregnation. He proceeded to accelerate the impregnation by pouring the water from one vessel into another, while they were both held within the sphere of the fixed air. The method of effecting this by air dislodged from chalk and other calcareous substances did not occur to him till the year 1772, when he published his directions for this purpose, together with a drawing of the necessary apparatus, which he had before communicated to the Board of Admiralty. That apparatus has now given way to another invented by Dr Nooth, which is made of glass, and stands on a wooden vessel *dd* (fig 1.) resembling a tea-board: the middle vessel B has a neck which is inserted into the mouth of the vessel A, to which it is ground air-tight. The lower neck of the vessel B has a glass stopper S, composed of two parts, both having holes sufficient to let a good quantity of air pass through them. Between these two parts is left a small space, containing a plano-convex lens, which acts like a valve, in letting the air pass from below upwards, and

hindering its return into the vessel A. The upper vessel C terminates below in a tube *rt*, which being crooked, hinders the immediate ascent of the bubbles of fixed air into that vessel, before they reach the surface of the water in the vessel B. The vessel C is also ground air-tight to the upper neck or the middle vessel B, and has a stopper *p* fitted to its upper mouth, which has a hole through its middle. The upper vessel C holds just half as much as the middle one B; and the end *t* of the crooked tube goes no lower than the middle of the vessel B.

For the use of this apparatus: Fill the middle vessel B with spring or any other wholesome water, and join to it the vessel C. Pour water into the vessel A (by the opening *m*, or otherwise) so as to cover the rising part of its bottom: for this about three-fourths of a pint will be sufficient. Fill an ounce phial with oil of vitriol, and add it to the water, shaking the vessel so as to mix them well together. As heat is generated, it will be best to add the oil by a little at a time, otherwise the vessel may be broken. Put to this, through a wide glass or paper funnel, about an ounce of powdered raw chalk or marble. White marble being first granulated, or pounded like coarse sand, is better for the purpose than pounded chalk, because it is harder; and therefore the action of the diluted acid upon it is slower, and lasts to a considerable time. On this account the supply of fixed air from it is more regular than with the chalk: and besides, when no more air is produced, the water may be decanted from the vessel A, and the white sediment washed off, and the remaining granulated marble may be employed again, by adding to it fresh water and a new quantity of oil of vitriol. The funnel in this process is made use of, in order to prevent the powder from touching the inside of the vessel's mouth; for if that happens, it will stick so strongly to the neck of the vessel B as not to admit of their being separated without breaking. Place immediately the two vessels B and C (fastened to each other) into the mouth of the vessel A, as in the figure, and all the fixed air which is disengaged from the chalk or marble by the oil of vitriol will pass up through the valve in S into the vessel B. When this fixed air comes to the top of the vessel B, it will dislodge from thence as much water as is equal to its bulk; which water will be forced up through the crooked tube into the upper vessel C.

Care must be taken not to shake the vessel A when the powdered chalk is put in; otherwise a great and sudden effervescence will ensue, which will perhaps expel part of the contents. In this case it may be necessary to open a little the stopper *p*, in order to give vent, otherwise the vessel A may burst. It will be proper also to throw away the contents and wash the vessel; for the matter will stick between the necks of the vessels, and cement them together. The operation must then be begun afresh. But if the chalk be put into the vessel loosely wrapt up in paper, this accident will be still better guarded against. When the effervescence goes on well, the vessel C will soon be filled with water, and the vessel B half filled with air; which will easily be known to be the case by the air going up in large bubbles through the crooked tube *rt*.

When this is observed, take off the two vessels B and C together as they are, and shake them so that the water and air within them may be much agitated. A great part

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part of the fixed air will be absorbed into the water, as will appear by the end of the crooked tube being considerably under the surface of the water in the vessel. The shaking them for two or three minutes will be sufficient for this purpose. These vessels must not be shaken while joined to the under one A, otherwise too great an effervescence will be occasioned in the latter, together with the ill consequence above mentioned. After the water and air have been sufficiently agitated, loosen the upper vessel C, so that the remaining water may fall down into B, and the unabsorbed air pass out. Put these vessels together, and replace them into the mouth of A, in order that B may be again half filled with fixed air. Shake the vessels B and C, and let out the unabsorbed air as before. By repeating the operation three or four times, the water will be sufficiently impregnated.

Whenever the effervescence nearly ceases in the vessel A, it may be renewed by giving it a gentle shake, so that the powdered chalk or marble at the bottom may be mixed with the oil of vitriol and water above it; for then a greater quantity of fixed air will be disengaged. When the effervescence can be no longer renewed by shaking the vessel A, either more chalk must be put in, or more oil of vitriol; or more water, if neither of these produce the desired effect.

Mr Magellan has still further improved this contrivance. He has two sets of the vessels B and C. While he is shaking the air and water contained in one of these sets, the other may be receiving fixed air from the vessel A. By this means twice the quantity of water may be impregnated in the same time. He has a wooden stand on which to fix the vessels B, C, when taken off from A, which is very convenient. He has a small tin trough for measuring the quantity of chalk or marble requisite for one operation, and a wide glass funnel for putting it through into the vessel A, to prevent its sticking to the sides, as mentioned before.

He has also contrived a stopper without a hole, to be used occasionally instead of the perforated one *p*. It must be of a conical figure, and very loose; but so exactly and smoothly ground as to be air-tight merely by its pressure. Its use is to compress the fixed air on the water, and thereby increase the impregnation. For by keeping the air on the water in this compressed state, the latter may be made to sparkle like champaign. And if the vessels are strong, there will be no danger of their bursting in the operation.

The water thus impregnated may be drawn out at the opening *k*. But if it is not wanted immediately, it will be better to let it remain in the machine, where it has no communication with the external air; otherwise the fixed air flies off by degrees, and the water becomes vapid and flat. But it may be kept a long time in bottles well stopped, especially if they are placed with their mouths downwards.

Dr Withering of Birmingham has lately contrived a new apparatus for impregnating water with fixed air, which, he says, is preferable to that in common use, because it can be made at less expence, and is more easily prepared; because the whole quantity of fixable air produced is converted to use, without any waste of the vitriolic acid; because it impregnates three times the quantity of water at one time more completely and with less trouble; and the impregnated water will al-

ways retain its virtue, if the joints and cocks of the machine are made perfectly air-tight; for which purpose they should once a-year be supplied with a small quantity of unsalted lard. This apparatus is exhibited by fig. 2. and consists of a glass vessel A, about ten inches high in the cylindrical part, and six inches and a half in diameter; another glass vessel B, about twelve inches high in the conical part, one inch and a half in the neck, and five inches in diameter at the bottom; a copper pipe C passing through the stopper of the vessel B, and tied fast in the flexible tube D, made of strong leather, air-tight, and kept hollow by means of a spiral wire passing through its whole length; a conical brass pipe E, with a stop-cock fastened to the tube D; another conical pipe F, with a stop-cock G, into which the end of the tube E is accurately ground so as to be air-tight, and cutting off all communication with the atmosphere when the pipe E is removed; two large hog's bladders H, H, each of which ought to hold two quarts; a stop-cock I to prevent the water rising into the bladders when the vessel A is agitated; a bladder K tied to the crooked tube with the stop-cock L, which occasionally opens or shuts the communication with the vessel B; a glass funnel M, accurately fitted with the glass stopper N; an aperture O, fitted with a glass stopper or a silver cock, from which the impregnated water is to be drawn for use; and, lastly, the tube P opening into the vessel A. When this apparatus is used, let the vessel A be filled with pure water, and any other ingredients that are required, in a proper proportion; into the vessel B put as much marble or whiting, in small lumps, as will cover its bottom to the height of about two inches, and pour in water to the height represented by the dotted line; let the mouth of the vessel A be well fitted with a cork, and through a hole in the cork pass the tube P, putting upon the cork melted sealing-wax of the softest kind, or modelling-wax, so as to make the whole air-tight. Let the mouth of the vessel B be stopped with a piece of mahogany, turned into a conical figure in a lathe, and of a size somewhat larger than the mouth of the glass will admit; put this piece of wood into melted bees-wax, and heat the wax till the wood begins to grow black: when cool, turn it again till it fits the mouth of the vessel: the tubes C, L, and M are fitted into holes and bored through the wooden stopper previous to its being immersed in the wax; push these tubes through the holes, and press the stopper into the orifice of the vessel B, and cement the whole with sealing or modelling-wax; shut the stop-cocks I and L, having previously pressed the air out of the bladder K: open the stop-cocks G and E; then squeeze the air out of the bladders H, H, and afterwards press the conical pipe E into the pipe F; pour about a large spoonful of oil of vitriol through the funnel M, and stop it with its stopper N. The fixable air let loose by the effervescence in the vessel B, rising through the tube C, passes into the bladders H, H, and distends them. In this case open the stop-cock I, and from the aperture O draw out about a quart of water; and the space before occupied by the water will be filled with fixable air, which soon begins to be absorbed by the remaining water, and is still supplied from the bladders H, H, and from the effervescing mixture in the vessel B. When the bladders are considerably collapsed, more vitriolic acid must be added through the

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funnel M, so that they may be always kept pretty fully distended. When an impregnation is speedily required, turn the stop-cocks at G and E, and open that at L; then separate the pipe E from the tube F, and agitate the vessel A; the fixable air will pass into the bladder K, and may be pressed into the two other bladders, when the parts of the apparatus are united. During the agitation, the stop-cock at I should be closed, and opened only occasionally to supply out of the bladders H, H, the fixable air absorbed by the water. If a strong impregnation be required, this process should be carried on in a room, the heat of which does not exceed forty-eight degrees of Fahrenheit's thermometer. Dr Withering observes, that the impregnated water receives no taste from the bladders; and that if the vessel A with its impregnated water be separated from the vessel B at the conical parting E, F, it may be inclosed in a pyramidal mahogany case, out of the lower part of which the silver cock at O projects; and thus serve for an ornamental as well as luxurious and salubrious addition to the side-board, particularly in the summer and autumnal seasons.

The artificial mineral waters thus made, are more pleasant to the taste than the natural Pyrmont or Seltzer waters; which, besides their fixed air, contain saline particles of a disagreeable taste, which are known to contribute little or nothing to their medicinal virtues, and may, in some cases, be hurtful. They are likewise considerably stronger. According to Sir John Pringle, these waters may be made more nearly to resemble genuine Pyrmont water, by adding to each pint of them from eight to ten drops of *tinctura martis cum spiritu salis*. Or this may be done, by adding to the water in the middle vessel B (fig. 1.), in the proportion of about thirty grains of Epsom salt, ten grains of common salt, a scruple of magnesia alba, and a dram of iron filings or iron wire, clean and free from rust, to one gallon of spring water, and impregnating the whole with fixed air in the manner already described. Let them remain, till the other ingredients and as much of the iron as is necessary are dissolved; which will be in two or three days: or the magnesia may be omitted, and then the operation will be finished in less than half that time. These waters may be rendered ferruginous or chalybeate very easily, by putting in the middle vessel two or more slender phials, filled with cuttings of fine iron-binding wire, or with small iron nails; because the impregnated water will dissolve the iron so fast, as to become well saturated with it in a few hours, according to the experiments of Mr Lane. But the method of rendering these artificial waters chalybeate, used by Dr Hulme, is to add one grain of salt of steel to each pint (sixteen ounces) of water already impregnated with fixed air.

But the ingenious Mr Bewley has invented a still better method of exhibiting fixed air as a medicine. He directs a scruple of alkaline salt to be dissolved in a sufficient quantity (a quarter of a pint, or less) of water, which is to be impregnated with as much fixed air as it can imbibe: this is to be taken at one dose. Mr Bewley directs it to be prepared in larger quantities at a time, and calls it his mephitic julep. If immediately after it a spoonful of lemon juice, mixed with two or three spoonfuls of water, and sweetened with sugar, be drunk, the fixed air will be extricated in the stomach;

and thus a much greater quantity of it may be given than the same quantity of water alone can be made to imbibe. Fixed air acts as a corroborant; and therefore may be given with success in weakness of the stomach, and in vomitings arising from that cause. It has also been given with success in the stone and in nephritic complaints. When the lungs are purulent, fixed air mixed with the air drawn into the lungs has repeatedly been found to perform a cure. The bark also may be given with advantage in water impregnated with fixed air, as they both coincide in their effect. Fixed air may be applied by means of a syringe, funnel, or otherwise, to inflamed breasts, putrid ulcers, mortified parts, ulcerated fore throats, and has been found in such and similar cases to have very remarkable efficacy. It may also be given internally at the same time. In putrid dysenteries, and in putrid stools, fixed air may be given by way of clyster. Fermenting cataplasms are of service, chiefly as they supply fixed air to the part. In cases of putridity fixed air has been successfully applied to the surface of the body exposed to streams of it. It is also found an excellent cooling as well as strengthening beverage in hot relaxing weather, and has the advantage of being pleasant to the taste.

SEM, or SHEM, the son of Noah, memorable for his filial piety in concealing the folly and disgrace of his father; for which he received a remarkable benediction, about 2476 B. C. He lived to the age of 600 years.

Ras SEM. See *Ras Sem* and *PETREFIED City*.

SEMECARPUS, in botany; a genus of the trigynia order, belonging to the pentandria class of plants. The corolla is quinquepetalous; the drupa is heart-shaped, cellulous, and monospermous. There is but one species.

SEMEN, SEED. See *BOTANY*, sect. iv. p. 435.

With respect to number, plants are either furnished with one seed, as sea-pink and bistort; two, as wood-roof and the umbelliferous plants; three, as spurge; four, as the lip-flowers of Tournefort and rough-leaved plants of Ray; or many, as ranunculus, anemone, and poppy.

The form of seeds is likewise extremely various, being either large or small, round, oval, heart-shaped, kidney-shaped, angular, prickly, rough, hairy, wrinkled, sleek or shining, black, white, or brown. Most seeds have only one cell or internal cavity; those of lesser burdock, valerian, lamb's lettuce, cornelian cherry, and febesten, have two.

With respect to substance, seeds are either soft, membranaceous, or of a hard bony substance; as in gromwell, tamarind, and all the nuciferous plants.

In point of magnitude, seeds are either very large, as in the cocoa-nut; or very small, as in campanula, *amman-nia*, rampions, and throat-wort.

With respect to situation, they are either dispersed promiscuously through the pulp (*semina nidulantia*), as in water-lily; affixed to a suture or joining of the valves of the seed-vessel, as in the cross-shaped and pea-bloom flowers; or placed upon a *placenta* or receptacle within the seed vessel, as in tobacco and thorn-apple.

Seeds are said to be naked (*semina nuda*) which are not contained in a cover or vessel: such are those of the lip and compound flowers, the umbelliferous and rough-leaved plants; covered seeds (*semina testa*) are

Sem

Semen.

Semen.

contained in some vessel, whether of the capsule, pod, berry, apple, or cherry kind.

A simple seed is such as bears neither crown, wing, nor downy *pappus*; the varieties in seeds, arising from these circumstances, are particularly enumerated under their respective heads.

In assimilating the animal and vegetable kingdoms, Linnæus denominates seeds the eggs of plants. The fecundity of plants is frequently marvellous; from a single plant or stalk of Indian Turkey wheat, are produced, in one summer, 2000 seeds; of elecampane, 3000; of sun-flower, 4000; of poppy, 32,000; of a spike of cat's tail, 10,000 and upwards: a single fruit, or seed-vessel, of tobacco, contains 1000 seeds; that of white poppy, 8000. Mr Ray relates, from experiments made by himself, that 1012 tobacco-seeds are equal in weight to one grain; and that the weight of the whole quantum of seeds in a single tobacco-plant, is such as must, according to the above proportion, determine their number to be 360,000. The same author estimates the annual produce of a single stalk of spleen-wort to be upwards of one million of seeds.

The dissemination of plants respects the different methods or vehicles by which nature has contrived to disperse their seeds for the purpose of increase. These by naturalists are generally reckoned four.

1. Rivers and running waters. 2. The wind. 3. Animals. 4. An elastic spring, peculiar to the seeds themselves.

1. The seeds which are carried along by rivers and torrents are frequently conveyed many hundreds of leagues from their native soil, and cast upon a very different climate, to which, however, by degrees they render themselves familiar.

2. Those which are carried by the wind, are either winged, as in fir-tree, trumpet-flower, tulip-tree, birch, arbor-vitæ, meadow rue, and Jessamine, and some umbelliferous plants; furnished with a *pappus*, or downy crown, as in valerian, poplar, reed, succulent swallow-wort, cotton-tree, and many of the compound flowers; placed within a winged *calyx* or seed-vessel, as in scabious, sea-pink, dock, dioscorea, ash, maple, and elm-trees, logwood and woad; or lastly, contained within a swelled *calyx* or seed-vessel, as in winter-cherry, cucubalus, melilot, bladder-nut, fumatory, bladder-sena, heart-feed, and chick-pease.

3. Many birds swallow the seeds of vanelloe, juniper, mistletoe, oats, millet, and other grasses, and void them entire. Squirrels, rats, parrots, and other animals, suffer many of the seeds which they devour to escape, and thus in effect disseminate them. Moles, ants, earthworms, and other insects, by ploughing up the earth, admit a free passage to those seeds which have been scattered upon its surface. Again, some seeds attach themselves to animals, by means of hooks, crotchets, or hairs, which are either affixed to the seeds themselves, as in hound's tongue, mouse ear, vervain, carrot, bastard-parley, fanicle, water hemp-agrimony, *arctopus* and *verbesina*; to their calyx, as in burdock, agrimony, *rhexia*, small wild bugloss, dock, nettle, pellitory, and lead wort; or to their fruit or seed-vessel, as in liquorice, enchanter's night shade, cross-wort, clivers, French honey-suckle, and arrow-headed grass.

4. The seeds which disperse themselves by an elastic force, have that force resident either in their *calyx*, as

in oats and the greater number of ferns; in their *pappus*, as in centaurea crupina; or in their *capsule*, as in geranium, herb-bennet, African spiræa, fraxinella, horse-tail, balsam, Malabar nut, cucumber, elaterium, and male balsam apple.

SEMEN, in the animal economy. See PHYSIOLOGY, sect. xii. and ANATOMY, n° 109.

SEMEN *Sandum*, or *Santonicum*. See ARTEMISIA.

SEMENDRIAH, a town of Turkey in Europe, in the province of Servia, with a good citadel. It is the capital of a sangiacate, was taken by the Turks in 1690, and is seated on the Danube, in E. Long. 21. 45. N. Lat. 45. 0.

SEMENTINÆ FERIÆ, in antiquity, feasts held annually among the Romans, to obtain of the gods a plentiful harvest. They were celebrated in the temple of Tellus, where solemn sacrifices were offered to Tellus and Ceres. These feasts were held about seed-time, usually in the month of January; for, as Macrobius observes, they were moveable feasts.

SEMI, a word borrowed from the Latin, signifying half; but only used in composition with other words, as in the following articles.

SEMI-Arians, in ecclesiastical history, a branch of the ancient Arians, consisting, according to Epiphanius, of such as, in appearance, condemned the errors of that heresiarch, but yet acquiesced in some of the principles thereof, only palliating and hiding them under softer and more moderate terms. Though they separated from the Arian faction (see ARIANS), they could never be brought to acknowledge that the Son was homoousios, that is, consubstantial, or of the same substance with the Father; they would only allow him to be homoiouosios, that is, of a like substance with the Father, or similar to the Father in his essence, not by nature, but by a peculiar privilege.

The semi-arianism of the moderns consists in their maintaining that the Son was from all eternity begotten by the will of the Father, contrary to the doctrine of the orthodox, who seem to teach that the eternal generation is necessary. Such at least are the respective opinions of Dr Clarke and Bishop Bull. See THEOLOGY.

SEMICIRCLE, in geometry, half a circle, or that figure comprehended between the diameter of the circle and half its circumference.

SEMICOLON, in grammar, one of the points or stops used to distinguish the several members of a sentence from each other.

The mark or character of the semicolon is (;), and has its name as being of somewhat less effect than a colon; or as demanding a shorter pause.

The proper use of the semicolon is to distinguish the conjunct members of a sentence. Now, by a conjunct member of a sentence is meant such a one as contains at least two simple members.—Whenever, then, a sentence can be divided into several members of the same degree, which are again divisible into other simple members, the former are to be separated by a semicolon. For instance: "If fortune bear a great sway over him, who has nicely stated and concerted every circumstance of an affair; we must not commit every thing, without reserve, to fortune, lest she have too great a hold of us." Again: *Si quantum in agro locisque desertis audacia potest, tantum in foro atque judiciis impudentia valeret; non minus in causa cederet Aulus Cicerina Sexta Aebutii impudentia,*

Semen.

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Semi.

Semicu-
bium
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Semipela-
gians.

dentia, quam tum in vi facienda cessit audacia. An instance in a more complex sentence we have in Cicero: *Res familiaris primum bene parata sit, nulloque turpi questu: tum quam plurimis, modo dignis, se utilem præbeat; deinde augeatur ratione, diligentia, parsimonia; nec libidini potius luxuriæque, quam liberalitati et beneficentiæ pareat.*

But though the proper use of the semicolon be to distinguish conjunct members, it is not necessary that all the members divided hereby be conjunct. For upon dividing a sentence into great and equal parts, if one of them be conjunct, all those other parts of the same degree are to be distinguished by a semicolon.—Sometimes also it happens, that members that are opposite to each other, but relate to the same verb, are separated by a semicolon. Thus Cicero: *Ex hac parte pudor, illinc petulantia; hinc fides, illinc fraudatio; hinc pietas, illinc scelus, &c.* To this likewise may be referred such sentences, where the whole going before, the parts follow: as “The parts of oratory are four; invention, disposition, elocution, and pronunciation.”

SEMICUBIUM, in medicine, an half-bath, wherein the patient is only placed up to the navel.

SEMI DIAMETER, half the diameter, or a right line drawn from the centre of a circle or sphere to its circumference: being the same with what is otherwise called the *radius*.

SEMI FLOSCULUS, in botany, a term used to express the flowers of the syngenesia class. These semiflosculi are petals, hollow in their lower part, but in their upper flat, and continued in the shape of a tongue.

SEMITONE, in music. See INTERVAL.

SEMINAL, something belonging to the semen or seed.

SEMINARY, in its primary sense, the ground where any thing is sown, to be afterwards transplanted.

SEMINARY, in a figurative sense, is frequently applied to places of education, whence scholars are transplanted into life.—In Catholic countries it is particularly used for a kind of college or school, where youth are instructed in the ceremonies, &c. of the sacred ministry. Of these there are great numbers; it being ordained by the council of Trent, that there be a seminary belonging to each cathedral, under the direction of the bishop.

SEMINATION, denotes the manner or act of shedding and dispersing the seeds of plants. See SEMEN.

SEMIPELAGIANS, in ecclesiastical history, a name anciently, and even at this day, given to such as retain some tincture of Pelagianism. See PELAGIANS.

Cassian, who had been a deacon of Constantinople, and was afterwards a priest at Marseilles, was the chief of these Semipelagians; whose leading principles were, 1. That God did not dispense his grace to one more than another in consequence of predestination, i. e. an eternal and absolute decree, but was willing to save all men, if they complied with the terms of his gospel. 2. That Christ died for all men. 3. That the grace purchased by Christ, and necessary to salvation, was offered to all men. 4. That man, before he received grace, was capable of faith and holy desires. 5. That man was born free, and was consequently capable of resisting the influences of grace, or of complying with its suggestion. The Semipelagians were very numerous; and the doctrine of Cassian, though variously explained, was received in the greatest part of the monastic schools in Gaul, from whence it spread itself far and wide thro'

the European provinces. As to the Greeks and other Semiramis, eastern Christians, they had embraced the Semipelagian Sempervi- doctrines before Cassian, and still adhere to them. In vum. the 6th century, the controversy between the Semipelagians and the disciples of Augustin prevailed much, and continued to divide the western churches.

SEMIRAMIS (fab. hist.), a celebrated queen of Assyria, daughter of the goddess Derceto, by a young Assyrian. She was exposed in a desert; but her life was preserved by doves for one whole year, till Simmas, one of the shepherds of Ninus, found her and brought her up as his own child. Semiramis, when grown up, married Menones, the governor of Nineveh, and accompanied him to the siege of Bactria; where, by her advice and prudent directions, she hastened the king's operations, and took the city. These eminent services, together with her uncommon beauty, endeared her to Ninus. The monarch asked her of her husband, and offered him his daughter Sofana in her stead; but Menones, who tenderly loved Semiramis, refused; and when Ninus had added threats to entreaties, he hanged himself. No sooner was Menones dead, than Semiramis, who was of an aspiring soul, married Ninus, by whom she had a son called *Ninyas*. Ninus was so fond of Semiramis, that at her request he resigned the crown, and commanded her to be proclaimed queen and sole empress of Assyria. Of this, however, he had cause to repent: Semiramis put him to death, the better to establish herself on the throne; and when she had no enemies to fear at home, she began to repair the capital of her empire, and by her means Babylon became the most superb and magnificent city in the world. She visited every part of her dominions, and left everywhere immortal monuments of her greatness and benevolence. To render the roads passable and communication easy, she hollowed mountains and filled up valleys, and water was conveyed at a great expence by large and convenient aqueducts to barren deserts and unfruitful plains. She was not less distinguished as a warrior: Many of the neighbouring nations were conquered; and when Semiramis was once told as she was dressing her hair, that Babylon had revolted, she left her toilette with precipitation, and though only half dressed, she refused to have the rest of her head adorned before the sedition was quelled and tranquillity re-established. Semiramis has been accused of licentiousness; and some authors have observed that she regularly called the strongest and stoutest men in her army to her arms, and afterwards put them to death, that they might not be living witnesses of her incontinence. Her passion for her son was also unnatural; and it was this criminal propensity which induced Ninyas to destroy his mother with his own hands. Some say that Semiramis was changed into a dove after death, and received immortal honours in Assyria. It is supposed that she lived about 11 centuries before the Christian era, and that she died in the 62d year of her age and the 25th of her reign. Many fabulous reports have been propagated about Semiramis, and some have declared that for some time she disguised herself and passed for her son Ninyas. *Lempriere's Bibliotheca Classica.*

SEMPERVIVUM, HOUSE-LEEK, in botany: A genus of plants belonging to the order of dodecagynia, and to the class of dodecandria; and in the natural method ranking under the 13th order, *Succulentæ*. The calyx is divided into 12 parts; the petals are 12, and the capules

Sempervivum
Senate.

12, containing many seeds. There are 12 species; the arboreum, canariense, glutinosum, glandulosum, tectorum, globiferum, villosum, tortuosum, arachnoideum, montanum, sediforme, and menanthes. Linnæus has only eight of these. The tectorum alone is a native of Britain. The stalk is about a foot high; the radical leaves are thick, oval, pointed, fringed, and spreading in a rose; those on the stem are imbricated and membranous: the flowers are pale red and sessile, and grow on curved terminal bunches. It is frequent on the tops of houses, and flowers in July.

Lewis's
Materia
Medica.

The following chemical description of this species is given by Lewis: "The leaves of house-leek, of no remarkable smell, discover to the taste a mild subacid austerity: their expressed juice, of a pale yellowish hue when filtered, yields on inspissation a deep yellow, tenacious, mucilaginous mass, considerably acidulous and acerb: from whence it may be presumed, that this herb has some claim to the refrigerant and restringent virtues that have been ascribed to it. It is observable that the filtered juice, on the addition of an equal quantity of rectified spirit of wine, forms a light white coagulum, like cream of fine pomatum, of a weak but penetrating taste: this, freed from the fluid part, and exposed to the air, almost totally exhales. From this experiment it is concluded by some, that house-leek contains a volatile alkaline salt: but the juice coagulates in the same manner with volatile alkalis themselves, as also with fixed alkalis: Acids produce no coagulation."

SENAAR, or SENNAAR. See SENNAAR.

SENATE, in general, is an assembly or council of senators; that is, of the principal inhabitants of a state, who have a share in the government.

The senate of ancient Rome is of all others the most celebrated. It exercised no contentious jurisdiction; but appointed judges, either from among the senators or knights, to determine processes: it also appointed governors of provinces, and disposed of the revenues of the commonwealth, &c. Yet did not the whole sovereign power reside in the senate, since it could not elect magistrates, make laws, or decide of war and peace; in all which cases the senate was obliged to consult the people.

The senate, when first instituted by Romulus, consisted of 100 members; to whom he afterwards added the same number when the Sabines had migrated to Rome. Tarquin the ancient made the senate consist of 300, and this number remained fixed for a long time; but afterwards it fluctuated greatly, and was increased first to 700, and afterwards to 900 by J. Cæsar, who filled the senate with men of every rank and order. Under Augustus the senators amounted to 1000, but this number was reduced, and fixed to 600. The place of a senator was always bestowed upon merit: the monarchs had the privilege of choosing the members; and after the expulsion of the Tarquins, it was one of the rights of the consuls, till the election of the censors, who from their office seemed most capable of making choice of men whose character was irreproachable, whose morals were pure, and relations honourable. Only particular families were admitted into the senate; and when the plebeians were permitted to share the honours of the state, it was then required that they should be born of free citizens. It was also required that the candidates should be knights

before their admission into the senate. They were to be above the age of 25, and to have previously passed through the inferior offices of quæstor, tribune of the people, edile, pretor, and consul.

The senate always met of course on the 1st of January, for the inauguration of the new consuls; and in all months, universally, there were three days, viz. the kalends, nones, and ides, on which it regularly met: but it always met on extraordinary occasions, when called together by consul, tribune, or dictator.

To render their decrees valid and authentic, a certain number of members was requisite, and such as were absent without some proper cause were always fined. In the reign of Augustus, 400 senators were requisite to make a senate. Nothing was transacted before sun-rise or after sun-set. In their office the senators were the guardians of religion, they disposed of the provinces as they pleased, they prorogued the assemblies of the people, they appointed thanksgivings, nominated their ambassadors, distributed the public money, and in short had the management of every thing political or civil in the republic, except the creating of magistrates, the enacting of laws, and the declarations of war or peace, which were confined to the assemblies of the people.

SENATOR, in general, denotes a member of some senate.

The dignity of a Roman senator could not be supported without the possession of 80,000 sesterces, or about 7000 l. English money; and therefore such as squandered away their money, and whose fortune was reduced below this sum, were generally struck out of the list of senators. This regulation was not made in the first ages of the republic, when the Romans boasted of their poverty. The senators were not permitted to be of any trade or profession. They were distinguished from the rest of the people by their dress; they wore the laticlave, half-boots of a black colour, with a crescent or silver buckle in the form of a C; but this last honour was confined only to the descendants of those hundred senators who had been elected by Romulus, as the letter C seems to imply. See the preceding article.

Among us, senator is a member of parliament. In the laws of king Edward the Confessor, we are told that the Britons called those *senators* whom the Saxons called afterwards *aldermen* and *borough-masters*; though not for their age, but their wisdom; for some of them were young men, but very well skilled in the laws. Kenulph king of the Mercians granted a charter, which ran thus, viz. *Consilio et consensu episcoporum et senatorum gentis sue largitus fuit dicto monasterio*, &c.

In Scotland, the lords of session are called *senators* of the college of justice.

SENATUS AUCTORITAS. See the next article.

SENATUS-Consultum, which made part of the Roman law. When any public matter was introduced into the senate, which was always called *referre ad senatum*, any senator whose opinion was asked, was permitted to speak upon it as long as he pleased, and on that account it was often usual for the senators to protract their speeches till it was too late to determine. When the question was put, they passed to the side of that speaker whose opinion they approved, and a majority of votes was easily collected, without the trouble

Senator,
Senatus.

Seneca.

of counting the numbers. When the majority was known, the matter was determined, and a *senatus consultum* was immediately written by the clerks of the house, at the feet of the chief magistrates, and it was signed by all the principal members of the house. When there was not a sufficient number of members to make a senate, the decision was called *senatus auctoritas*, but it was of no force if it did not afterwards pass into a *senatus consultum*.

The *senatus consulta* were at first left in the custody of the kings, and afterward of the consuls, who could suppress or preserve them; but about the year of Rome 304, they were always deposited in the temple of Ceres, and afterwards in the treasury, by the ediles of the people.

SENECA (Lucius Annæus), a Stoic philosopher, was born at Corduba in Spain, about the beginning of the Christian era, of an Equestrian family, which had probably been transplanted thither in a colony from Rome. He was the second son of Marcus Annæus Seneca, commonly called the *rhetorician*, whose remains are printed under the title of *Suasoriae & Controversiae, cum Declamationum Excerptis*; and his youngest brother Annæus Mela (for there were three of them) had the honour of being father to the poet Lucan. He was removed to Rome, together with his father and the rest of his family, while he was yet in his infancy. There he was educated in the most liberal manner, and under the best masters. He learned eloquence from his father; but his genius rather leading him to philosophy, he put himself under the stoics Attalus, Sotion, and Papirius Fabianus; men famous in their way, and of whom he has made honourable mention in his writings. It is probable, too, that he travelled when he was young, since we find him, in several parts of his works, particularly in his *Quaestiones Naturales*, making very exact and curious observations upon Egypt and the Nile.— But this, though entirely agreeable to his own humour, did not at all correspond with that scheme or plan of life which his father had drawn out for him; who therefore forced him to the bar, and put him upon soliciting for public employments; so that he afterwards became quaestor, praetor, and, as Lipsius will have it, even consul.

In the first year of the reign of Claudius, when Julia the daughter of Germanicus was accused of adultery by Messalina, and banished, Seneca was banished too, being charged as one of the adulterers. Corsica was the seat of his exile, where he lived eight years; “happy in the midst of those things which usually make other people miserable; *inter eas res beatus, quæ solent miseros facere*.” and where he wrote his books of consolation, addressed to his mother Helvia, and to his friend Polybius, and perhaps some of those tragedies which go under his name; for he says, *modo se levioribus studiis ibi oblectasse*. Agrippina being married to Claudius, upon the death of Messalina, she prevailed with the emperor to recall Seneca from banishment; and afterwards procured him to be tutor to her son Nero, whom she designed for the empire. Africanus Burrhus, a praetorian praefect, was joined with him in this important charge: and these two preceptors, who were entrusted with equal authority, had each his respective department. By the bounty and generosity of his royal pupil, Seneca ac-

quired that prodigious wealth which rendered him in a manner equal to kings. His houses and walks were the most magnificent in Rome. His villas were innumerable; and he had immense sums of money placed out at interest in almost every part of the world. The historian Dio reports him to have had 250,000 l. Sterling at interest in Britain alone; and reckons his calling it in all at a sum, as one of the causes of a war with that nation.

All this wealth, however, together with the luxury and effeminacy of a court, does not appear to have had any ill effect upon the temper and disposition of Seneca. He continued abstemious, exact in his manners, and, above all, free from the vices so commonly prevalent in such places, flattery and ambition. “I had rather (said he to Nero) offend you by speaking the truth, than please you by lying and flattery: *maluerim veris offendere, quam placere adulando*.” How well he acquitted himself in quality of preceptor to his prince, may be known from the five first years of Nero’s reign, which have always been considered as a perfect pattern of good government; and if that emperor had but been as observant of his master through the whole course of it, as he was at the beginning, he would have been the delight, and not, as he afterwards proved, the curse and detestation of mankind. But when Poppæa and Tigellinus had got the command of his humour, and hurried him into the most extravagant and abominable vices, he soon grew weary of his master, whose life must indeed have been a constant rebuke to him. Seneca, perceiving that his favour declined at court, and that he had many accusers about the prince, who were perpetually whispering in his ear the great riches of Seneca, his magnificent houses and fine gardens, and what a favourite through means of these he was grown with the people, made an offer of them all to Nero. Nero refused to accept them: which, however, did not hinder Seneca from changing his way of life; for, as Tacitus relates, he “kept no more levees, declined the usual civilities which had been paid to him, and, under a pretence of indisposition, or some engagement or other, avoided as much as possible appearing in public.”

Nero, in the mean time, who, as it is supposed, had dispatched Burrhus by poison, could not be easy till he had rid himself of Seneca also: For Burrhus was the manager of his military concerns, and Seneca conducted his civil affairs. Accordingly, he attempted, by means of Cleonicus, a freedman of Seneca, to take him off by poison; but this not succeeding, he ordered him to be put to death, upon an information that he was privy to Piso’s conspiracy against his person. Not that he had any real proof of Seneca’s being at all concerned in this plot, but only that he was glad to lay hold of any pretence for destroying him.— He left Seneca, however, at liberty to choose his manner of dying; who caused his veins to be opened immediately. His wife Paulina, who was very young in comparison of himself, had yet the resolution and affection to bear him company, and thereupon ordered her veins to be opened at the same time; but as Nero was not willing to make his cruelty more odious and insupportable than there seemed occasion for, he gave orders to have her death prevented; upon which her wounds were bound up, and the blood stopped, in just time enough to save her; tho’, as Tacitus says, she looked so miser-

Seneca,
Senecio,

ably pale and wan all her life after, that it was easy to read the loss of her blood and spirits in her countenance. In the mean time, Seneca, finding his death slow and lingering, desired Statius Annæus his physician to give him a dose of poison, which had been prepared some time before in case it should be wanted; but this not having its usual effect, he was carried to a hot bath, where he was at length stifled with the steams. He died, as Lipsius conjectures, in the 63d or 64th year of his age, and in about the 10th or 11th of Nero's reign. Tacitus, on mentioning his death, observes, that, as he entered the bath, he took of the water, and with it sprinkled some of his nearest domestics, saying, "That he offered those libations to Jupiter the Deliverer." These words are an evident proof that Seneca was not a Christian, as some have imagined him to have been; and that the 13 epistles from Seneca to St Paul, and from St Paul to Seneca, are supposititious pieces. His philosophical works are well known.—They consist of 124 *epistles* and distinct treatises; and, except his books of physical questions, are chiefly of the moral kind, treating of anger, consolation, providence, tranquillity of mind, constancy, clemency, the shortness of life, a happy life, retirement, benefits. He has been justly censured by Quintilian and other critics, as one of the first corrupters of the Roman style; but his works are highly valuable, on account of the vast erudition which they discover, and the beautiful moral sentiments which they contain.

SENECIO, GROUNDSEL, in botany: A genus belonging to the class of syngenesia, and to the order of polygamia superflua; and in the natural classification ranked under the 49th order, *Compositæ*. The receptacle is naked; the pappus simple; the calyx cylindrical and calyculated. The scales are equal and contiguous, so as to seem entire; those at the base are few, and have their apices or points decayed. There are 57 species. Of these, seven are British, the *vulgaris*, *viscosus*, *sylvaticus*, *erucifolius*, *jacobæa*, *paludosus*, and *faracenicus*.

1. The *vulgaris*, or common groundsel, has its corollæ naked, its leaves sessile, smooth, and sinuated, their segments short, broad, and minutely serrated; the flowers are yellow, and without radii. This weed grows in cultivated ground everywhere, and flowers in May. Its leaves have been used in medicine externally as a vulnerary and refrigerant, and internally as a mild emetic; but they have little or no efficacy. 2. The *viscosus*, or cotton groundsel, has its corollæ revolute, its leaves pinnatifid, viscid, and downy. The scales of the calyx are lax and hairy, and are of the same length with the perianthium. 3. The *sylvaticus*, or mountain groundsel, has its corollæ revolute, its leaves pinnatifid and dentated, the stem comyrbous and erect. It flowers in July, and is frequent in woods and heaths. 4. The *erucifolius*, hoary perennial ragwort; the corollæ are radiant; the leaves are pinnatifid, dentated, and downy beneath; the stem is erect, and two feet high; the flowers are yellow, and grow in clusters. This plant is frequent in woods and hedges. 5. The *jacobæa*, common ragwort; the corollæ are radiant; the leaves pinnated and lyre-shaped, and of a dark-green colour; the stalk is erect, round, and generally purplish; the flowers grow in clusters on the tops of the stalks. The leaves have a bitterish subacid taste, and extremely nauseous. Si-

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mon Paulli says, that a decoction of them cured many soldiers of an epidemic dysentery. 6. The *paludosus*, marsh ragwort; the corollæ are radiant; the leaves sword-shaped, acutely serrated, and somewhat downy underneath; the stem is erect, branched towards the top, and four or five feet high; the flowers are large and yellow. This plant is frequent in fens and ditches in England. 7. The *faracenicus*, broad-leaved ragwort; the corollæ are radiant; the leaves are lanceolated, serrated, and somewhat smooth; the stem is erect, simple, and four or five feet high; there are several flowers on each footstalk, which are yellow, and grow in clusters on the top. The plant grows in moist pastures in England; and flowers in July or August.

SENEGAL, a part of Negroland in Africa, the boundaries of which are not known. See GUINEA.

Isle of SENEGAL, sometimes called *Saint Louis*, is a small island in the mouth of the river Senegal, and according to Maskelyne's tables is situated in N. Lat. 15. 53. W. Long. 16. 31. The Dutch were the first Europeans who settled at Senegal; but their colony was expelled by the French in 1687. It was taken by the English in 1692; and retaken by the French the year following. It was a second time taken possession of by the English in 1758; but in 1779 the French recovered it, and it was ceded by the British crown by the treaty of 1783.

The best account of this island which we have seen, is given in the interesting voyage of M. Saugnier to the coast of Africa. This adventurer visited Senegal in June 1785.

"The island (says he), properly speaking, is only a bank of sand in the middle of the river. It is 1000 geometrical paces long, and about 60 in its greatest width; is almost on a level with the river and with the sea, being defended from the latter by Barbary point, which is of greater elevation than the colony. The eastern branch of the river is the more considerable of the two, being about 400 toises across; the western branch is only from 50 to 200 toises wide. The isle consists entirely of burning sands, on the barren surface of which you sometimes meet with scattered flints, thrown out among their ballast by vessels coming from Goree, or with the ruins of buildings formerly erected by Europeans. There is scarcely such a thing as a garden upon the island; European seeds in general not thriving here. It is not surprising that the soil is so unproductive; for the air is strongly impregnated with sea salt, which pervades every thing, and consumes even iron in a very short space of time. The heats are excessive, and rendered still more insupportable by the reflection of the sand; so that from ten in the morning until four in the afternoon it is almost impossible to do any work. During the months of January, February, March, and April, the heats are moderated; but in August and the following months they become so oppressive as even to affect the natives themselves. What effect then must they have upon the Europeans, suddenly transported into this burning climate? The nights are a little less sultry; not always, however, but only when the sea-breeze sets in. It is then that the inhabitants of the colony breathe a fresher air, for which they have been longing the whole of the day; but this air in our climate would seem a burning vapour. The nights are nevertheless troublesome, notwithstanding the comforts of the

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sea-

Senegal. sea-breeze. The instant the sun is set, we are assailed by an infinity of gnats, which are called *musquitos*; their stings are very painful, and their multitudes incredible. The inhabitants find but a poor defence in their gauze-curtains. For my own part, accustomed as I had been to live among the Moors, I was but little annoyed by these insects. Being half a savage, I felt no desire to recommend myself to the favourable regard of the fair sex, and I was therefore under no necessity of taking care of my person. In imitation of my former masters, I smeared myself with butter, and this expedient preserved me at all times from these impertinent stingers, these spiteful enemies to the repose of the human kind.

"If the prospect of Senegal is not agreeable to the eye, much less are its environs, which are covered over only with sand, and over-run with mangles. It may be said, without exaggeration, that there is not a more forlorn situation to be found on the face of the inhabited globe, or a place in which the common necessities of life are procured with greater difficulties. Water, that indispensable aliment of man, is here not potable. Wells are dug in the sand to the depth of five or six feet, and water is obtained by these means; but whatever pains are taken to freshen it, it ever retains a brackish taste. I have distilled this water myself, and observed that it always had a disagreeable flavour, which cannot fail to be hurtful to the health: it is true, that when the river is high, its streams are fresh, but the water is only the more dangerous. It proves the cause of most of those maladies which carry off the Europeans so rapidly, that at the end of every three years the colony has a fresh set of inhabitants. The blacks themselves, although accustomed to the climate, are not in this season free from disease."

The fort of St Louis is a quadrangle, and has two bastions of considerable strength; but the greatest security of the fort is its natural situation. The cannon of the fort are numerous, and the arsenal well supplied with small arms and stores. Besides this fort the French had no other upon the river, except Fort St Joseph, which stands about four leagues below the cataract at Govina, though they had a few factories in different parts.

The principal commodity of this country is that of gum Senegal (see *GUM-Senegal*), which is a valuable branch of commerce, as it is used in many arts and manufactures, particularly by the painters in water-colours, the silk weavers, and dyers.

The French import from the river Senegal not only gum-arabic, but elephants teeth, hides, bees-wax, gold-dust, cotton, ostrich feathers, ambergris, indigo, and civet.

Notwithstanding the barrenness of the spot, Senegal contains more than 6000 negroes, including the captives of the *Tapades*, or negroes born of the black inhabitants of the country. They are never put up to sale, unless convicted of some crime. Their huts, constructed in the form of bee-hives, and supported upon four stakes, surround the habitations of the negro inhabitants. The entire height of those huts may rise to about 12 feet, the width in every direction is commonly from 10 to 12. The beds are composed of hurdles laid upon cross-bars, supported by forked stakes at the height of about a foot from the ground. Here the slaves

sleep promiscuously, men, women, girls, and boys. A *Senegal* fire is made in the middle of the hut, which is filled with smoke, sufficient to stifle any man but a negro.

The men are tall, and the women are accounted the handsomest negresses of all Africa. The Senegalians may be considered as the most courageous people of that part of the world, without even excepting the Moors. Their courage, however, is more nearly allied to temerity than to bravery. In the course of the voyage to Galam, they meet the greatest dangers with gaiety and song; they dread neither musket nor cannon, and are equally fearless of the cayman or crocodile. Should one of their companions be killed, and devoured by these animals before their face, they are not deterred from plunging into the water, if the working of the ship require it. These excellent qualifications which distinguish them, and on which they value themselves so much, do not, however, preserve them from the common contagion of the country, which inclines them all to rapine. They are emulous to surpass one another in all the arts of over-reaching and fraud. The conduct of the Europeans has, no doubt, encouraged these vices as much as the lessons of the marabouts, who inculcate the duty of plundering the Christians to the utmost of their power.

The Yolo negroes of Senegal are either Christians or Mahometans, or rather one and the other, or with more truth neither; religion being a matter of indifference to them. Those on the continent are of the same way of thinking, and their religious practices are kept up only for the sake of form. A bar of iron, a few beads, will make them change their opinion at will. By such means are they acted upon; a sufficient proof of their want of all religious principle. The marabouts, or priests, and the men of their law, are no better than the rest. "I have examined the character of several of this order of men (says M. Saugnier), and even among the nation of the Poules, who are considered as great fanatics, I discovered that they were only publicly attached to their opinions. 'This white man (say they) does so; he is better informed than I, and why should not I imitate his example?' This way of reasoning is common to all that tract of country.

The colony of Senegal is surrounded with islands, which, on account of the proximity of the sea, are all more unhealthy than that on which the town is built. They are full of standing pools, that, when dried up by the sun, exhale a putrid vapour that carries mortality with it, and desolates these islands. It is doubtless the same cause that takes off so many of the French at Senegal during the dangerous season of the year. This also may be in part occasioned by the bad quality of the water, which flows from the ponds in the neighbourhood of the colony, and though incorporated with that of the river, comes down little agitated by the current, and is easily distinguished by a vapidness of taste. This particular is, in my opinion, essentially worthy of notice, and if properly attended to by our medical men, might become the means of preserving many lives.

SENEGAL-River, see *NIGER*. As so little is known respecting this river, which is one of the greatest in Africa, any additional information must be interesting. We shall therefore present our readers with the account contained in the communications presented to the Association

Senegal,
Seneka.

tion for promoting the discovery of the Interior Parts of Africa, which, as far as we know, is the latest and most authentic.

The river known to Europeans by the name of *Niger* or *Senegal* runs on the south of the kingdom of Casina, in its course towards Tombuctou; and if the report which Ben Alli heard in that town may be credited, it is afterwards lost in the sands on the south of the country of Tombuctou. In the map (A), only the known part of its course is marked by a line; and the supposititious part by dots. It may be proper to observe, that the Africans have two names for this river; that is, *Neel il Abeed*, or river of the Negroes; and *Neel il Kibeer*, or the great river. They also term the Nile (that is the Egyptian river) *Neel Shem*; so that the term *Neel*, from whence our Nile, is nothing more than the appellative of river; like Ganges, or Sinde.

Of this river the rise and termination are unknown, but the course is from east to west. So great is its rapidity, that no vessel can ascend its stream; and such is the want of skill, or such the absence of commercial inducements among the nations who inhabit its borders, that even with the current, neither vessels nor boats are seen to navigate. In one place, indeed, the traveller finds accommodations for the passage of himself and of his goods; but even there, tho' the ferrymen, by the indulgence of the sultan of Cashna, are exempted from all taxes, the boat which conveys the merchandise is nothing more than an ill-constructed raft; for the planks are fastened to the timbers with ropes, and the seams are closed both within and without by a plaster of tough clay, of which a large provision is always carried on the raft, for the purpose of excluding the stream wherever its entrance is observed.

The depth of the river at the place of passage, which is more than a hundred miles to the south of the city of Cashna, the capital of the empire of that name, is estimated at 23 or 24 feet English. Its depth is from 10 to 12 peeks, each of which is 27 inches.

Its width is such, that even at the island of Gongoo, where the ferrymen reside, the sound of the loudest voice from the northern shore is scarcely heard; and at Tombuctou, where the name of *Guewa*, or black, is given to the stream, the width is described as being that of the Thames at Westminster. In the rainy season it swells above its banks, and not only floods the adjacent lands, but often sweeps before it the cattle and cottages of the short-sighted or too confident inhabitants.

That the people who live in the neighbourhood of the Niger should refuse to profit by its navigation, may justly surprise the traveller: but much greater is his astonishment, when he finds that even the food which the bounty of the stream would give, is uselessly offered to their acceptance; for such is the want of skill, or such the settled dislike of the people to this sort of provision, that the fish with which the river abounds are left in undisturbed possession of its waters.

SENEKA, or SENEGA, *Rattlesnake-root*, *Milk-wort*, a medicinal plant. See POLYGALA.

SENESCHAL, (*Seneschallus*), derived from the German *sein* "a house or place," and *scale* "an officer," is a steward, and signifies one who has the disposing of justice in some particular cases: As the high seneschal or steward of England; *seneschal de la hotel de roi*, "steward of the king's household, seneschal, or steward of courts, &c." *Co. Lit.* 61. *Croke's Jurist.* 102. *Kitch.* 83. See STEWARD.

SENNÄ, the leaf of the cassia fenna of Linnæus. See CASSIA.

Senna appears to have been cultivated in England in the time of Parkinson (1640); and Miller tells us, that by keeping these plants in a hot-bed all the summer, he frequently had them in flower; but adds, it is very rarely that they perfect their seeds in England. There can be little doubt, however, but that some of the British possessions may be found well enough adapted to the growth of this vegetable, and that the patriotic views of the Society for encouraging Arts, &c. which has offered a reward to those who succeed in the attempt, will be ultimately accomplished.

Senna, which is in common use as a purgative, was first known to the Arabian physicians Serapion and Mesue: the first among the Greeks who takes any notice of it is Actuarius, but he only speaks of the fruit, and not of the leaves. To remove the disagreeable taste of this medicine, Dr Cullen recommends coriander seeds; and, for preventing the gripings with which it is sometimes attended, he thinks the warmer aromatics, as cardamoms or ginger, would be more effectual.

The *Senna Italica*, or blunt-leaved senna, is a variety of the Alexandrian species; which, by its cultivation in the south of France (Provence), has been found to assume this change. It is less purgative than the pointed-leaved senna, and is therefore to be given in larger doses. It was employed as a cathartic by Dr Wright at Jamaica, where it grows on the sand-banks near the sea.

SENNAR, a country of Africa, bordering upon Abyssinia, with the title of a kingdom; the present government of which was established in the 16th century by a race of negroes named, in their own language, *Shillook*. This country, together with all the northern parts of Africa, had been over-run by the Saracens during the rapid conquests of the khalifs; but instead of erecting any distinct principalities here, as in other parts, they had incorporated themselves with the old inhabitants called *Shepherds*, whom they found at their arrival; had converted them to their religion, and become one people with them. In 1504 the Shillook, a people before unknown, came from the western banks of the river Bahiar el Abiad, which empties itself into the Nile, and conquered the country; allowing the Arabs, however, to retain their possessions on condition of paying them a certain tribute. These founded the city of Sennar, and have ever since continued to carry on an intercourse with Egypt in the way of merchandise. At the establishment of their monarchy the whole nation were Pagans, but soon after became converts to Mohammedanism, and took the name of *Funge*, an appellation signifying "lords or conquerors," and like-

L12

wife

(A) The map alluded to is that which accompanies the volume which contains the proceedings of the Associations. This work was printed in 1791.

Seneschal
||
Sennar.

Woodville's
Medical Be-
tany.

Lond. Med.
Jour.
vol. 3.

Sennaar. wife free citizens. Mr Bruce, who passed through this country in his return from Abyssinia, gives a list of 20 kings who have reigned in it since the conquest of the Shillook.

*Bruce's
Travels,
vol. 4.*

This country is inhabited by a people so barbarous and brutish, that no history of them can be expected. One of the most remarkable of their customs is, that the king ascends the throne with the expectation of being murdered whenever the general council of the nation thinks proper. The dreadful office of executioner belongs to one single officer, styled, in the language of the country, *Sid el Coom*; and who is always a relation of the monarch himself. It was from his registers that Mr Bruce took the list of the kings already mentioned, with the number of years they reigned, and which may therefore be received as authentic. The *Sid el Coom* in office at the time that Mr Bruce visited this country was named Achmet, and was one of his best friends. He had murdered the late king, with three of his sons, one of whom was an infant at its mother's breast; he was also in daily expectation of performing the same office to the reigning sovereign. He was by no means reserved concerning the nature of his office, but answered freely every question that was put to him. When asked by Mr Bruce why he murdered the king's young son in his father's presence? he answered, that he did it from a principle of duty to the king himself, who had a right to see his son killed in a lawful and regular manner, which was by cutting his throat with a sword, and not in a more painful or ignominious way, which the malice of his enemies might possibly have inflicted.

The king, he said, was very little concerned at the sight of his son's death, but he was so very unwilling to die himself, that he often pressed the executioner to let him escape; but finding his intreaties ineffectual, he submitted at last without resistance. On being asked, whether he was not afraid of coming into the presence of the king, considering the office he might possibly have to perform? he replied, that he was not in the least afraid on this account; that it was his duty to be with the king every morning, and very late in the evening; that the king knew he would have no hand in promoting his death; but that, when the matter was absolutely determined, the rest was only an affair of decency; and it would undoubtedly be his own choice, rather to fall by the hand of his own relation in private than by a hired assassin, an Arab, or a Christian slave, in the sight of the populace. Baady the king's father, having the misfortune to be taken prisoner, was sent to Atbara to Welled Hassan the governor of that province to be put to death there. But the king, who was a strong man, and always armed, kept so much upon his guard, that Welled could find no opportunity of killing him but by running him through the back with a lance as he was washing his hands. For this Welled himself was afterwards put to death; not on account of the murder itself, but because, in the first place, he, who was not the proper executioner, had presumed to put the king to death; and, in the next, because he had done it with a lance, whereas the only lawful instrument was a sword.

On the death of any of the sovereigns of this country, his eldest son succeeds to the throne of course; on which as many of his brothers as can be found are ap-

prehended, and put to death by the *Sid el Coom* in the manner already related. Women are excluded from the sovereignty here as well as in Abyssinia. The princesses of Sennaar, however, are worse off than those of Abyssinia, having no settled income, nor being treated in any degree better than the daughters of private persons. The king is obliged, once in his lifetime, to plough and sow a piece of ground; whence he is named *Baady*, the "countryman or peasant;" a title as common among the monarchs of Sennaar as *Cæsar* was among the Romans. The royal family were originally negroes; but as the kings frequently marry Arab women, the white colour of the mother is communicated to the child. This, we are told by Mr Bruce, is invariably the case when a negro man of Sennaar marries an Arab woman; and it holds equally good when an Arab man marries a negro woman; and he likewise informs us, that he never saw one black Arab all the time he was at Sennaar.

The soil and climate of this country is extremely unfavourable both to man and beast. The men are strong and remarkable for their size, but short-lived; and there is such a mortality among the children, that were it not for a constant importation of slaves, the metropolis would be depopulated. The shortness of their lives, however, may perhaps be accounted for, from their indulging themselves from their infancy in every kind of excess. No horse, mule, nor ass, will live at Sennaar or for many miles round it. The case is the same with bullocks, sheep, dogs, cats, and poultry; all of them must go to the sands every half-year. It is difficult to account for this mortality; though Mr Bruce assures us it is the case everywhere about the metropolis of this country, where the soil is a fat earth during the first season of the rains. Two greyhounds which he brought along with him from Atbara, and the mules he brought from Abyssinia, lived only a few weeks after their arrival at Sennaar. Several of the kings of Sennaar have tried to keep lions, but it was always found impossible to preserve them alive after the rains. They will live, however, as well as other quadrupeds, in the sands; at no great distance from the capital. — No species of tree except the lemon flowers near this city; the cultivation of the rose has often been attempted, but always without success. In other respects, however, the soil of Sennaar is exceedingly fertile, being said to yield 300 fold; but this is thought by Mr Bruce to be a great exaggeration. It is all sown with dora or millet, which is the principal food of the people; wheat and rice are also produced here, which are sold by the pound, even in years of plenty. The soil all round is strongly impregnated with salt, so that a sufficient quantity to serve the inhabitants is extracted from it.

SENNAAR, a city of Africa, the capital of the kingdom of that name. It stands, according to Mr Bruce's observations, in N. Lat. 13° 34' 36" E. Long. 33° 30' 30" on the western side of the Nile, and close upon the banks of it; the ground on which it stands being just high enough to prevent the inundation. The town is very populous, and contains a great many houses. In Poncet's time they were all of one story; but now most of the officers have houses of two stories high. They are built of clay mixed with a very little straw, and have all flat roofs; which shows that the rains here

must

Sennaar. must be much less in quantity than to the southward. During the time of Mr Bruce's residence here, however, there was one week of continual rain, and the Nile, after loud thunder and great darkness to the south, increased violently; the whole stream being covered with the wrecks of houses and their furniture; so that he supposed it had destroyed many villages to the southward. About 12 miles to the north-west of Sennaar is a collection of villages named *Shaddly*, from a great saint of that name, who constructed several granaries here. These are no other than large pits dug in the ground, and well plastered in the inside with clay, then filled with grain when it is at its lowest price, and afterwards covered up and plastered again at top: these pits they call *matamores*. On any prospect of dearth they are opened, and the corn sold to the people. About 24 miles north of Shaddly there is another set of granaries named *Wed-Aboud*, still greater than Shaddly; and upon these two the subsistence of the Arabs principally depends: for as these people are at continual war with each other, and direct their fury rather against the crops than the persons of their enemies, the whole of them would be unavoidably starved, were it not for this extraordinary resource. Small villages of soldiers are scattered up and down this country to guard the grain after it is sown, which is only that species of millet named *Dora*; the soil, it is said, being incapable of producing any other. There are great hollows made in the earth at proper distances throughout the country, which fill with water in the rainy season, and are afterwards of great use to the Arabs as they pass from the cultivated parts to the sands. The fly, which is such a dreadful enemy to the cattle, is never seen to the northward of Shaddly.

To the westward of these granaries the country is quite full of trees as far as the river Abiad, or El-aice. In this extensive plain there arise two ridges of mountains, one called *Jibbel Moira*, or the *Mountain of water*; the other *Jibbel Segud*, or the *Cold Mountain*. Both of them enjoy a fine climate, and serve for a protection to the farms about Shaddly and Aboud already mentioned. Here also are fortresses placed in the way of the Arabs, which serve to oblige them to pay tribute in their flight from the cultivated country, during the rains, to the dry lands of Atbara. Each of these districts is governed by the descendant of their ancient and native princes, who long resisted all the power of the Arabs. Sacrifices of a horrid nature are said to have been offered up on these mountains till about the year 1554, when one of the kings of Sennaar besieged first one and then the other of the princes in their mountains; and having forced them to surrender, he fastened a chain of gold to each of their ears, exposed them in the market-place at Sennaar, and sold them for slaves at less than a farthing each. Soon after this they were circumcised, converted to the Mahometan religion, and restored to their kingdoms.

"Nothing (says Mr Bruce) is more pleasant than the country around Sennaar in the end of August and beginning of September. The grain, being now sprung up, makes the whole of this immense plain appear a level green land, interspersed with great lakes of water, and ornamented at certain intervals with groups of villages; the conical tops of the houses presenting at a distance the appearance of small encampments. Through

this very extensive plain winds the Nile, a delightful river there, above a mile broad, full to the very brim, but never overflowing. Everywhere on these banks are seen herds of the most beautiful cattle of various kinds. The banks of the Nile about Sennaar resemble the pleasantest part of Holland in the summer season; but soon after, when the rains cease, and the sun exerts its utmost influence, the dora begins to ripen, the leaves to turn yellow and to rot, the lakes to putrefy, smell, become full of vermin, and all its beauty suddenly disappears: bare scorched Nubia returns, and all its terrors of poisonous winds and moving sands, glowing and ventilated with sultry blasts, which are followed by a troop of terrible attendants; epilepsies, apoplexies, violent fevers, obstinate agues, and lingering painful dysenteries, still more obstinate and mortal.

"War and treason seem to be the only employment of this horrid people, whom Heaven has separated by almost impassable deserts from the rest of mankind; confining them to an accursed spot, seemingly to give them an earnest in time of the only other course which he has reserved to them for an eternal hereafter."

With regard to the climate of the country round Sennaar, Mr Bruce has several very curious observations. The thermometer rises in the shade to 119 degrees; but the degree indicated by this instrument does not at all correspond with the sensations occasioned by it; nor with the colour of the people who live under it. "Nations of blacks (says he) live within latitude 13 and 14 degrees; about 10 degrees south of them, nearly under the line, all the people are white, as we had an opportunity of observing daily in the Galla Sennaar, which is in latitude 13 degrees, is hotter by the thermometer 50 degrees, when the sun is most distant from it, than Gondar, which is a degree farther south, when the sun is vertical.—Cold and hot (says our author) are terms merely relative, not determined by the latitude, but elevation of the place. When, therefore, we say *hot*, some other explanation is necessary concerning the place where we are, in order to give an adequate idea of the sensations of that heat upon the body, and the effects of it upon the lungs. The degree of the thermometer conveys this but very imperfectly; 90 degrees is excessively hot at Loheia in Arabia Felix; and yet the latitude of Loheia is but 15 degrees; whereas 90 degrees at Sennaar is only warm as to sense; though Sennaar, as we have already said, is in latitude 13 degrees.

"At Sennaar, then, I call it *cold*, when one fully clothed and at rest feels himself in want of fire. I call it *cool*, when one fully clothed and at rest feels he could bear more covering all over, or in part, than he has at that time. I call it *temperate*, when a man so clothed, and at rest, feels no such want, and can take moderate exercise, such as walking about a room without sweating. I call it *warm*, when a man, so clothed, does not sweat when at rest; but, upon taking moderate exercise, sweats, and again cools. I call it *hot*, when a man at rest, or with moderate exercise, sweats excessively. I call it *very hot*, when a man with thin, or little clothing, sweats much, though at rest. I call it *excessive hot*, when a man, in his shirt and at rest, sweats excessively, when all motion is painful, and the knees feel feeble, as if after a fever. I call it *extreme hot*, when the strength fails, a disposition to faint comes on, a straitness is found

Sennaar. in the temples, as if a small cord was drawn tight about the head, the voice impaired, the skin dry, and the head seems more than ordinarily large and light. This, I apprehend, denotes death at hand; but this is rarely or never effected by the sun alone, without the addition of that poisonous wind which pursued us through Atbara, where it has, no doubt, contributed to the total extinction of every thing that hath the breath of life. A thermometer, graduated upon this scale, would exhibit a figure very different from the common one; for I am convinced by experiment, that a web of the finest muslin, wrapt round the body at Sennaar, will occasion at mid-day a greater sensation of heat in the body, than a rise of 5 degrees in the thermometer of Fahrenheit.

"At Sennaar, from 70 to 78 degrees of Fahrenheit's thermometer is cool; from 79 to 92 temperate; at 92 degrees begins warmth. Although the degree of the thermometer marks a greater heat than is felt by the body of us strangers, it seems to me that the sensations of the natives bear still a less proportion to that degree than ours. On the 2d of August, while I was lying perfectly enervated on a carpet in a room deluged with water at 12 o'clock, the thermometer at 116, I saw several black labourers pulling down a house, working with great vigour, without any symptoms of being incommoded."

The dress of the people of Sennaar consists only of a long shirt of blue cloth, which wraps them up from the under part of the neck to the feet. It does not, however, conceal the neck in the men, though it does in the women. The men sometimes have a sash tied about their middle; and both men and women go barefooted in the houses, whatever their rank may be. The floors of their apartments, especially those of the women, are covered with Persian carpets. Both men and women anoint themselves, at least once a-day, with camel's grease mixed with civet, which, they imagine, softens their skins, and preserves them from cutaneous eruptions; of which they are so fearful, that they confine themselves to the house if they observe the smallest pimple on their skins. With the same view of preserving their skins, though they have a clean shirt every day, they sleep with a greased one at night, having no other covering but this. Their bed is a tanned bull's hide, which this constant greasing softens very much; it is also very cool, though it gives a smell to their bodies from which they cannot be freed by any washing.

Our author gives a very curious description of the queens and ladies of the court at Sennaar. He had access to them as a physician, and was permitted to pay his visit alone. He was first shown into a large square apartment, where there were about 50 black women, all quite naked excepting a very narrow piece of cotton rag about their waists. As he was musing whether these were all queens, one of them took him by the hand, and led him into another apartment much better lighted than the former. Here he saw three women sitting upon a bench or sofa covered with blue Surat cloth; they themselves being clothed from the neck to the feet with cotton shirts of the same colour. These were three of the king's wives; his favourite, who was one of the number, appeared to be about six feet high, and so corpulent that our traveller imagined her to be the largest creature he had seen next to the elephant

and rhinoceros. Her features perfectly resembled those of a negro: a ring of gold passed through her under lip, and weighed it down, till, like a flap, it covered her chin, leaving her teeth bare, which were small and very fine. The inside of her lip was made black with antimony. Her ears reached down to her shoulders, and had the appearance of wings: there was a gold ring in each of them about five inches in diameter, and somewhat smaller than a man's little finger; the weight of which had drawn down the hole where her ear was pierced so much that three fingers might easily pass above the ring. She had a gold necklace like that called *Esclavage*, of several rows, one below another; to which were hung rows of sequins pierced. She had two manacles of gold upon her ankles larger than those used for chaining felons. Our author could not imagine how it was possible for her to walk with them, till he was informed that they were hollow. The others were dressed much in the same manner; only there was one who had chains coming from her ears to the outside of each nostril, where they were fastened. A ring was also put through the gristle of her nose, and which hung down to the opening of her mouth; having all together something of the appearance of a horse's bridle; and Mr Bruce thinks that she must have breathed with difficulty.

The poorer sort of the people of Sennar live upon the flour or bread of millet; the rich make puddings of this, toasting the flour before the fire, and putting milk and butter into it; besides which they use beef partly roasted and partly raw. They have very fine and fat horned cattle, but the meat commonly sold in the market is camel's flesh. The liver and spare rib of this animal are always eaten raw; nor did our author see one instance to the contrary all the time he was in the country. Hog's flesh is not sold in the market; but all the common people of Sennaar eat it openly; those in office, who pretend to be Mahometans, doing the same in secret.

There are no manufactures in this country, and the principal article of trade is blue Surat cloth. In former times, when caravans could pass with safety, Indian goods were brought in quantities from Jidda to Sennaar, and then dispersed over the country of the blacks. The returns were made in gold, a powder called *Tibbar*, civet, rhinoceroses horns, ivory, ostrich feathers, and above all slaves or glass, more of these being exported from Sennaar than from all the East of Africa. This trade, however, as well as that of the gold and ivory, is almost destroyed; though the gold is still reputed to be the best and purest in Africa, and is therefore bought at Mocha to be carried to India, where it all centres at last.

SENNERTUS (Daniel), an eminent physician, was born in 1572 at Breslaw; and in 1593 he was sent to Wittemberg, where he made great progress in philosophy and physic. He visited the universities of Leipzig, Jena, Francfort upon the Oder, and Berlin; but soon returned to Wittemberg, where he was promoted to the degree of doctor of physic, and soon after to a professorship in the same faculty. He was the first who introduced the study of chemistry into that university; he gained a great reputation by his works and practice, and was very generous to the poor. He died of the plague at Wittemberg, in 1637. He raised himself enemies

Senones
Sense.

enemies by contradicting the ancients. He thought the seed of all living creatures animated, and that the soul of this seed produces organization. He was accused of impiety for asserting that the souls of beasts are not material; for this was affirmed to be the same thing with asserting that they are immortal; but he rejected this consequence, as he well might do. See METAPHYSICS, Part III. chap. vi.

SENONES, (anc. geog.), a people of Gallia Celtica, situated on the Sequana to the south of the Parisii, near the confluence of the Jeuna or Yonne with the above-mentioned river. Their most considerable exploit was their invasion of Italy, and taking and burning Rome, as related under that article. This was done by a colony of them long before transported into Italy, and settled on the Adriatic. Their capital, Agendicum in Gaul, was in the lower age called *Senones*, now *Sens*. In Italy the Senones extended themselves as far as the river Aesis; but were afterwards driven beyond the Rubicon, which became the boundary of Gallia Cisalpina, (Polybius, Strabo.)

SENSATION, in philosophy, the perception of external objects by means of the senses. See METAPHYSICS, Part I. chap. i.

SENSE, a faculty of the soul whereby it perceives external objects by means of the impressions they make on certain organs of the body. See METAPHYSICS, Part I. and ANATOMY, n° 137, &c.

Common SENSE, is a term that has been variously used both by ancient and modern writers. With some it has been synonymous with public sense; with others it has denoted prudence; in certain instances, it has been confounded with some of the powers of taste; and, accordingly, those who commit egregious blunders with regard to decorum, saying and doing what is offensive to their company, and inconsistent with their own character, have been charged with a defect in common sense. Some men are distinguished by an uncommon acuteness in discovering the characters of others; and this talent has been sometimes called *common sense*; similar to which is that use of the term, which makes it to signify that experience and knowledge of life which is acquired by living in society. To this meaning Quintilian refers, speaking of the advantages of a public education: *Sensum ipsum qui communis dicitur, ubi discet, cum se a congressu, qui non hominibus solum, sed mutis quoque animalibus naturalis est, segregavit?* Lib. i. cap. 2.

But the term *common sense* hath in modern times been used to signify that power of the mind which perceives truth, or commands belief, not by progressive argumentation, but by an instantaneous, instinctive, and irresistible impulse; derived neither from education nor from habit, but from nature; acting independently of our will, whenever its object is presented, according to an established law, and therefore called *sense*; and acting in a similar manner upon all, or at least upon a great majority of mankind, and therefore called *common sense*. See METAPHYSICS, n° 127.

Moral SENSE, is a determination of the mind to be pleased with the contemplation of those affections, actions, or characters, of rational agents, which we call good or virtuous.

This moral sense of beauty in actions and affections

may appear strange at first view: some of our moralists themselves are offended at it in Lord Shaftesbury, as being accustomed to deduce every approbation or aversion from rational views of interest. It is certain that his Lordship has carried the influence of the moral sense very far, and some of his followers have carried it farther. The advocates for the selfish system seem to drive their opinions to the opposite extreme, and we have elsewhere endeavoured to show that the truth lies between the contending parties. See MORAL PHILOSOPHY, n° 27, — 32.

Public SENSE is defined by the noble author of the Characteristics to be an innate propensity to be pleased with the happiness of others, and to be uneasy at their misery. It is found, he says, in a greater or less degree in all men, and was sometimes called *νομοσυνετα*, or *sensus communis*, by ancient writers.

Of the reality of this public sense we have great doubts. The conduct of savages, who are more under the influence of original instinct than civilized men, gives no countenance to it. Their affections seem all to be selfish, or at least to spring from self-love variously modified. For the happiness of their wives they have very little regard, considering them merely as instruments of their own pleasure, and valuing them for nothing else. Hence they make them toil, while they themselves indulge in listless idleness. To their children we believe they exhibit strong symptoms of attachment, as soon as they derive assistance from them in war, or in the business of the chase; but during the helpless years of infancy, the child is left by the selfish father wholly to the care and protection of its wretched mother; who, impelled by the *storgé* of all females to their young, cherishes her offspring with great fondness. — The savage is, indeed, susceptible of strong attachments, similar to that which we call friendship; but such attachments are no proofs of disinterested benevolence, or what his Lordship calls the *public sense*. Two barbarous heroes are probably first linked together by the observation of each other's prowess in war, or their skill in pursuing their game; for such observation cannot fail to show them that they may be useful to one another; and we have elsewhere shown how real friendship may spring from sentiments originally selfish. The savage is very much attached to his horde or tribe, and this attachment resembles patriotism: but patriotism itself is not a sentiment of pure benevolence delighting in the happiness of others, and grieving at their misery; for the patriot prefers his own country to all others, and is not very scrupulous with respect to the rectitude of the means by which he promotes its interest, or depresses its rivals. The savage pursues with relentless rigour the enemies of himself or of the tribe to which he belongs; shows no mercy to them when in his power, but puts them to the cruellest death, and carries their scalps to the leader of his party. These facts, which cannot be controverted, are perfectly irreconcilable with innate benevolence, or a public sense comprehending the whole race of men; and show the truth of that theory by which we have in another place endeavoured to account for all the passions, social as well as selfish. See PASSION.

SENSIBLE NOTE, in music, is that which constitutes a third major above the dominant, and a semitone.

Sense,
Sensible.

Sensibility tone beneath the tonic. *Si*, or *B*, is the sensible note in the tone of *ut* or *C sol* ✕; or *G* sharp, in the tone of *la* or *A*.

They call it the *sensible note* on this account, that it causes to be perceived the tone or natural series of the key and the tonic itself; upon which, after the chord of the dominant, the sensible note taking the shortest road, is under a necessity of rising; which has made some authors treat this sensible note as a major dissonance, for want of observing, that dissonance, being a relation, cannot be constituted unless by two notes between which it subsists.

It is not meant that the sensible note is the seventh of the tone, because, in the minor mode, this seventh cannot be a sensible note but in ascending; for, in descending, it is at the distance of a full note from the tonic, and of a third minor from the dominant.

SENSIBILITY, is a nice and delicate perception of pleasure or pain, beauty or deformity. It is very nearly allied to taste; and, as far as it is natural, seems to depend upon the organization of the nervous system. It is capable, however, of cultivation, and is experienced in a much higher degree in civilized than in savage nations, and among persons liberally educated than among boors and illiterate mechanics. The man who has cultivated any of the fine arts has a much quicker and more exquisite perception of beauty and deformity in the execution of that art, than another of equal or even greater natural powers, who has but casually inspected its productions. He who has been long accustomed to that decorum of manners which characterizes the polite part of the world, perceives almost instantaneously the smallest deviation from it, and feels himself almost as much hurt by behaviour harmless in itself, as by the grossest rudeness; and the man who has long proceeded steadily in the paths of virtue, and often painted to himself the deformity of vice, and the miseries of which it is productive, is more quickly alarmed at any deviation from rectitude, than another who, though his life has been stained by no crime, has yet thought less upon the principles of virtue and consequences of vice.

Every thing which can be called sensibility, and is not born with man, may be resolved into association, and is to be regulated accordingly; for sensibilities may be acquired which are inimical to happiness and to the practice of virtue. The man is not to be envied who has so accustomed himself to the forms of polite address as to be hurt by the unaffected language and manners of the honest peasant, with whom he may have occasion to transact business; nor is he likely to acquire much useful knowledge who has so sedulously studied the beauties of composition as to be unable to read without disgust a book of science or of history, of which the style comes not up to his standard of perfection. That sensibility which we either have from nature, or necessarily acquire, of the miseries of others, is of the greatest use when properly regulated, as it powerfully impels us to relieve their distress; but if it by any means become so exquisite as to make us shun the sight of misery, it counteracts the end for which it was implanted in our nature, and only deprives us of happiness, while it contributes nothing to the good of others. Indeed there is reason to believe that all such extreme sensibilities are selfish affectations, employed as apologies for withholding from the miserable that relief which it is in our power

to give; for there is not a fact better established in the science of human nature, than that passive perceptions grow gradually weaker by repetition, while active habits daily acquire strength.

It is of great importance to a literary man to cultivate his taste, because it is the source of much elegant and refined pleasure, (see **TASTE**); but there is a degree of fastidiousness which renders that pleasure impossible to be obtained, and is the certain indication of expiring letters. It is necessary to submit to the artificial rules of politeness, for they tend to promote the peace and harmony of society, and are sometimes a useful substitute for moral virtue; but he who with respect to them has so much sensibility as to be disgusted with all whose manners are not equally polished with his own, is a very troublesome member of society. It is every man's duty to cultivate his moral sensibilities, so as to make them subservient to the purposes for which they were given to him; but if he either feel, or pretend to feel, the miseries of others to so exquisite a degree as to be unable to afford them the relief which they have a right to expect, his sensibilities are of no good tendency.

That the man of true sensibility has more pains and more pleasures than the callous wretch, is universally admitted, as well as that his enjoyments and sufferings are more exquisite in their kinds; and as no man lives for himself alone, no man will acknowledge his want of sensibility, or express a wish that his heart were callous. It is, however, a matter of some moment to distinguish real sensibilities from ridiculous affectations; those which tend to increase the sum of human happiness from such as have a contrary tendency, and to cultivate them all in such a manner as to make them answer the ends for which they were implanted in us by the beneficent Author of nature. This can be done only by watching over them as over other associations, (see **METAPHYSICS**, n^o 98.); for excessive sensibility, as it is not the gift of nature, is the bane of human happiness. "Too much tenderness (as Rousseau well observes) proves the bitterest curse instead of the most fruitful blessing; vexation and disappointment are its certain consequences. The temperature of the air, the change of the seasons, the brilliancy of the sun, or thickness of the fogs, are so many moving springs to the unhappy possessor, and he becomes the wanton sport of their arbitration."

SENSITIVE-PLANT. See **MIMOSA**, **DIONÆA**, and **HEDYSARUM**.

The sensitive plants are well known to possess a kind of motion, by which the leaves and stalks are contracted and fall down upon being slightly touched, or shaken with some degree of violence.

The contraction of the leaves and branches of the sensitive plant when touched, is a very singular phenomenon. Different hypotheses have been formed by botanists in order to explain it; but we are disposed to believe that these have generally been deduced rather from analogical reasoning than from a collection of facts and observations. We shall therefore give an account of all the important facts which we have been able to collect upon this curious subject; and then draw such conclusions as obviously result from them, without, however, attempting to support any old, or to establish a new, hypothesis.

1. It is difficult to touch the leaf of a healthy sensitive plant so delicately that it will not immediately collapse

Sensitive. lapse (A), the foliola or little leaves moving at their base till they come into contact, and then applying themselves close together. If the leaf be touched with a little more force, the opposite leaf will exhibit the same appearance. If a little more force be applied, the partial footstalks bend down towards the common footstalk from which they issue, making with it a more acute angle than before. If the touch be more violent still, all the leaves situated on the same side with the one that has been touched will instantly collapse, and the partial footstalk will approach the common footstalk to which it is attached, in the same manner as the partial footstalk of the leaf approaches the stem or branch from which it issues; so that the whole plant, from having its branches extended, will immediately appear like a weeping birch.

2. These motions of the plant are performed by means of three distinct and sensible articulations. The first, that of the foliola or lobes to the partial footstalk; the second, that of the partial footstalk to the common one; the third, that of the common footstalk to the trunk. The primary motion of all which is the closing of the leaf upon the partial footstalk, which is performed in a similar manner, and by a similar articulation. This, however, is much less visible than the others. These motions are wholly independent on one another, as may be proved by experiment. It appears that if the partial footstalks are moved, and collapse toward the petiole, or these toward the trunk, the little leaves, whose motion is usually primary to these, should be affected also; yet experiment proves that it is possible to touch the footstalks in such a manner as to affect them only, and make them apply themselves to the trunk, while the leaves feel nothing of the touch; but this cannot be, unless the footstalks are so disposed as that they can fall to the trunk, without suffering their leaves to touch any part of the plant in their passage, because, if they do, they are immediately affected.

3. Winds and heavy rains make the leaves of the sensitive plant contract and close; but no such effect is produced from slight showers.

4. At night, or when exposed to much cold in the day, the leaves meet and close in the same manner as when touched, folding their upper surfaces together, and in part over each other, like scales or tiles, so as to expose as little as possible of the upper surface to the air. The opposite sides of the leaves (foliola) do not come close together in the night, for when touched they apply themselves closer together. Dr Darwin kept a sensitive plant in a dark place for some hours after day-break; the leaves and footstalks were collapsed as in its most profound sleep; and, on exposing it to the light, above 20 minutes passed before it was expanded.

5. In the month of August, a sensitive plant was carried in a pot out of its usual place into a dark cave, the motion that it received in the carriage shut up its leaves, and they did not open till 24 hours afterwards; at this time they became moderately open, but were af-

Sensitive. towards subject to no changes at night or morning, but remained three days and nights with their leaves in the same moderately open state. At the end of this time they were brought out again into the air, and there recovered their natural periodical motions, shutting every night, and opening every morning, as naturally and as strongly as if the plant had not been in this forced state; and while in the cave, it was observed to be very little less affected with the touch than when abroad in the open air.

6. The great heats of summer, when there is open sunshine at noon, affect the plant in some degree like cold, causing it to shut up its leaves a little, but never in any very great degree. The plant, however, is least of all affected about nine o'clock in the morning, and that is consequently the properest time to make experiments on it. A branch of the sensitive plant cut off, and laid by, retains yet its property of shutting up and opening in the morning for some days; and it holds it longer if kept with one end in water, than if left to dry more suddenly.

7. The leaves only of the sensitive plant shut up in the night, not the branches; and if it be touched at this time, the branches are affected in the same manner as in the day, shutting up, or approaching to the stalk or trunk, in the same manner, and often with more force. It is of no consequence what the substance is with which the plant is touched, it answers alike to all; but there may be observed a little spot, distinguishable by its paler colour in the articulations of its leaves, where the greatest and nicest sensibility is evidently placed.

8. Duhamel having observed, about the 15th of September, in moderate weather, the natural motion of a branch of a sensitive plant, remarked, that at nine in the morning it formed with the stem an angle of 100 degrees; at noon, 112 degrees; at three afternoon, it returned to 100; and after touching the branch, the angle was reduced to 90. Three quarters of an hour after it had mounted to 112; and, at eight at night, it descended again, without being touched, to 90. The day after, in finer weather, the same branch, at eight in the morning, made an angle of 135 degrees with the stem; after being touched, the angle was diminished to 80; an hour after, it rose again to 135; being touched a second time, it descended again to 80; an hour and a half after, it had risen to 145; and upon being touched a third time, descended to 135; and remained in that position till five o'clock in the afternoon, when being touched a fourth time it fell to 110.

9. The parts of the plants which have collapsed afterwards unfold themselves, and return to their former expanded state. The time required for that purpose varies, according to the vigour of the plant, the season of the year, the hour of the day, the state of the atmosphere. Sometimes half an hour is requisite, sometimes only ten minutes. The order in which the parts recover themselves varies in like manner: sometimes it is the common footstalk; sometimes the rib to which

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the

(A) As the nature of the sensitive plant is curious, we wish to make the description of it intelligible to those who are not acquainted with the technical language of botany. We have therefore used the word *leaf* instead of *foliolum*, or lobe.

Sensitive the leaves are attached; and sometimes the leaves themselves are expanded, before the other parts have made any attempt to be reinstated in their former position.

10. If, without shaking the other smaller leaves, we cut off the half of a leaf or lobe belonging to the last pair, at the extremity or summit of a wing, the leaf cut, and its antagonist, that is to say, the first pair, begin to approach each other; then the second, and so on successively, till all the lesser leaves, or lobes of that wing, have collapsed in like manner. Frequently, after 12 or 15 seconds, the lobes of the other wings, which were not immediately affected by the stroke, shut; whilst the stalk and its wing, beginning at the bottom, and proceeding in order to the top, gradually recover themselves. If, instead of one of the lesser extreme leaves, we cut off one belonging to the pair that is next the footstalk, its antagonist shuts, as do the other pairs successively, from the bottom to the top. If all the leaves of one side of a wing be cut off, the opposite leaves are not affected, but remain expanded. With some address, it is possible even to cut off a branch without hurting the leaves, or making them fall. The common footstalk of the winged leaves being cut as far as three-fourths of its diameter, all the parts which hang down collapse, but quickly recover without appearing to have suffered any considerable violence by the shock. An incision being made into one of the principal branches to the depth of one-half the diameter, the branches situated betwixt the section and the root will fall down; those above the incision remain as before, and the lesser leaves continue open; but this direction is soon destroyed, by cutting off one of the lobes at the extremity, as was observed above. Lastly, a whole wing being cut off with precaution near its insertion into the common footstalk, the other wings are not affected by it, and its own lobes do not shut. No motion ensues from piercing the branch with a needle or other sharp instrument.

11. If the end of one of the leaves be burned with the flame of a candle, or by a burning glass, or by touching it with hot iron, it closes up in a moment, and the opposite leaf does the same, and after that the whole series of leaves on each side of the partial or little footstalk; then the footstalk itself; then the branch or common footstalk; all do the same, if the burning has been in a sufficient degree. This proves that there is a very nice communication between all the parts of the plant, by means of which the burning, which only is applied to the extremity of one leaf, diffuses its influence through every part of the shrub. If a drop of aquafortis be carefully laid upon a leaf of the sensitive plant, so as not to shake it in the least, the leaf does not begin to move till the acrid liquor corrodes the substance of it; but at that time, not only that particular leaf, but all the leaves placed on the same footstalk, close themselves up. The vapour of burning sulphur has also this effect on many leaves at once, according as they are more or less exposed to it; but a bottle of very acrid and sulphureous spirit of vitriol, placed under the branches unstopped, produces no such effect. Wetting the leaves with spirit of wine has been observed also to have no effect, nor the rubbing oil of almonds over them; though this last application destroys many plants.

From the preceding experiments the following con-

clusions may be fairly drawn: 1. The contraction of *Sensitive*, the parts of the sensitive plant is occasioned by an external force, and the contraction is in proportion to the force. 2. All bodies which can exert any force affect the sensitive plant; some by the touch or by agitation, as the wind, rain, &c.; some by chemical influence, as heat and cold. 3. Touching or agitating the plant produces a greater effect than an incision or cutting off a part, or by applying heat or cold.

Attempts have been made to explain these curious phenomena. Dr Darwin, in the notes to his admired poem, intitled, *The Botanic Garden*, lays it down as a principle, that "the sleep of animals consists in a suspension of voluntary motion; and as vegetables are subject to sleep as well as animals, there is reason to conclude (says he) that the various action of closing their petals and foliage may be justly ascribed to a voluntary power; for without the faculty of volition sleep would not have been necessary to them." Whether this definition of sleep when applied to animals be just, we shall not inquire; but it is evident the supposed analogy between the sleep of animals and the sleep of plants has led Dr Darwin to admit this astonishing conclusion, that plants have volition. As volition presupposes a mind or soul, it were to be wished that he had given us some information concerning the nature of a vegetable soul, which can think and will. We suspect, however, that this vegetable soul will turn out to be a mere mechanical or chemical one; for it is affected by external forces uniformly in the same way, its volition is merely passive, and never makes any successful resistance against those causes by which it is influenced. All this is a mere abuse of words. The sleep of plants is a metaphorical expression, and has not the least resemblance to the sleep of animals. Plants are said to sleep when the flowers or leaves are contracted or folded together; but we never heard that there is any similar contraction in the body of an animal during sleep.

The fibres of vegetables have been compared with the muscles of animals, and the motions of the sensitive plant have been supposed the same with muscular motion. Between the fibres of vegetables and the muscles of animals, however, there is not the least similarity. If muscles be cut through, so as to be separated from the joints to which they are attached, their powers are completely destroyed; but this is not the case with vegetable fibres. The following very ingenious experiment, which was communicated to us by a respectable member of the University of Edinburgh, is decisive on this subject. He selected a growing poppy at that period of its growth, before unfolding, when the head and neck are bent down almost double. He cut the stalk where it was curved half through on the under side, and half through at a small distance on the upper side, and half through in the middle point between the two sections, so that the ends of the fibres were separated from the stalk. Notwithstanding these several cuttings on the neck, the poppy raised its head, and assumed a more erect position. There is, therefore, a complete distinction between muscular motion and the motions of a plant, for no motion can take place in the limb of an animal when the muscles of that limb are cut.

In fine, we look upon all attempts to explain the motions of plants as absurd, and all reasoning from supposed analogy between animals and vegetables as the source

Sentence source of wild conjecture, and not of sound philosophy. We view the contraction and expansion of the sensitive plant in the same light as we do gravitation, chemical attraction, electricity, and magnetism, as a singular fact, the circumstances of which we may be fully acquainted with, but must despair of understanding its cause.

What has been said under this article chiefly refers to the *mimosa sensitiva* and *pudica*. For a full account of the motions of vegetables in general, see *Vegetable Motion*, under the article **MOTION**.

SENTENCE, in law, a judgment passed in court by the judge in some process, either civil or criminal. See **JUDGMENT**.

SENTENCE, in grammar, denotes a period; or a set of words comprehending some perfect sense or sentiment of the mind. The business of pointing is to distinguish the several parts and members of sentences, so as to render the sense thereof as clear, distinct, and full as possible. See **PUNCTUATION**.

In every sentence there are two parts necessarily required; a noun for the subject, and a definite verb; whatever is found more than these two, affects one of them, either immediately, or by the intervention of some other, whereby the first is affected.

Again, every sentence is either simple or compound; a simple sentence is that consisting of one single subject, and one finite verb.—A compound sentence contains several subjects and finite verbs, either expressly or implicitly.

A simple sentence needs no point or distinction; only a period to close it: as, "A good man loves virtue for itself."—In such a sentence, the several adjuncts affect either the subject or the verb in a different manner. Thus the word *good* expresses the quality of the subject, *virtue* the object of the action, and *for itself* the end thereof.—Now none of these adjuncts can be separated from the rest of the sentence: for if one be, why should not all the rest? and if all be, the sentence will be minced into almost as many parts as there are words.

But if several adjuncts be attributed in the same manner either to the subject or the verb, the sentence becomes compound, and is to be divided into parts.

In every compound sentence, as many subjects, or as many finite verbs as there are, either expressly or implied, so many distinctions may there be. Thus, "My hopes, fears, joys, pains, all centre in you." And thus *Catiline obiit, excessit, evasit, erupit*.—The reason of which pointing is obvious; for as many subjects or finite verbs as there are in a sentence, so many members does it really contain. Whenever, therefore, there occur more nouns than verbs, or contrariwise, they are to be conceived as equal. Since, as every subject requires its verbs, so every verb requires its subject, wherewith it may agree; excepting, perhaps, in some figurative expressions.

SENTICOSÆ (from *sentis*, a "briar or bramble"); the name of the 35th order in Linnæus's fragments of a natural method, consisting of rose, bramble, and other plants, which resemble them in port and external structure. See **BOTANY**, page 465.

SENTIMENT, according to Lord Kames, is a term appropriated to such thoughts as are prompted by passion. It differs from a perception; for a perception signifies the act by which we become conscious

of external objects. It differs from consciousness of an internal action, such as thinking, suspending thought, inclining, resolving, willing, &c. And it differs from the conception of a relation among objects; a conception of that kind being termed *opinion*.

SENTIMENTS, in poetry. To talk in the language of music, each passion hath a certain tone, to which every sentiment proceeding from it ought to be tuned with the greatest accuracy: which is no easy work, especially where such harmony ought to be supported during the course of a long theatrical representation. In order to reach such delicacy of execution, it is necessary that a writer assume the precise character and passion of the personage represented; which requires an uncommon genius. But it is the only difficulty; for the writer, who, annihilating himself, can thus become another person, need be in no pain about the sentiments that belong to the assumed character: these will flow without the least study, or even preconception; and will frequently be as delightfully new to himself as to his reader. But if a lively picture even of a single emotion require an effort of genius, how much greater the effort to compose a passionate dialogue with as many different tones of passion as there are speakers? With what ductility of feeling must that writer be endued, who approaches perfection in such a work; when it is necessary to assume different and even opposite characters and passions in the quickest succession? Yet this work, difficult as it is, yields to that of composing a dialogue in genteel comedy, exhibiting characters without passion. The reason is, that the different tones of character are more delicate, and less in sight, than those of passion; and, accordingly, many writers, who have no genius for drawing characters, make a shift to represent, tolerably well, an ordinary passion in its simple movements. But of all works of this kind, what is truly the most difficult, is a characteristical dialogue upon any philosophical subject; to interweave characters with reasoning, by suiting to the character of each speaker a peculiarity not only of thought but of expression, requires the perfection of genius, taste, and judgment.

How difficult dialogue-writing is, will be evident, even without reasoning, from the miserable compositions of that kind found without number in all languages. The art of mimicking any singularity in gesture or in voice, is a rare talent, though directed by sight and hearing, the acute and most lively of our external senses: how much more rare must that talent be, of imitating characters and internal emotions, tracing all their different tints, and representing them in a lively manner by natural sentiments properly expressed? The truth is, such execution is too delicate for an ordinary genius; and for that reason the bulk of writers, instead of expressing a passion as one does who feels it, content themselves with describing it in the language of a spectator. To awake passion by an internal effort merely, without any external cause, requires great sensibility; and yet that operation is necessary, not less to the writer than to the actor; because none but those who actually feel a passion can represent it to the life. The writer's part is the more complicated: he must add composition to passion: and must, in the quickest succession, adopt every different character. But a very humble flight of imagination may serve to convert a

Sentiments. writer into a spectator, so as to figure, in some obscure manner, an action as passing in his sight and hearing. In that figured situation, being led naturally to write like a spectator, he entertains his readers with his own reflections, with cool description, and florid declamation; instead of making them eye-witnesses, as it were, to a real event, and to every movement of genuine passion. Thus most of our plays appear to be cast in the same mould; personages without character, the mere outlines of passion, a tiresome monotony, and a pompous declamatory style.

This descriptive manner of representing passion is a very cold entertainment; our sympathy is not raised by description; we must first be lulled into a dream of reality, and every thing must appear as passing in our sight. Unhappy is the player of genius who acts a part in what may be termed a *descriptive tragedy*; after assuming the very passion that is to be represented, how is he cramped in action, when he must utter, not the sentiments of the passion he feels, but a cold description in the language of a bystander? It is that imperfection, undoubtedly, in the bulk of our plays, which confines our stage almost entirely to Shakespeare, notwithstanding his many irregularities. In our late English tragedies, we sometimes find sentiments tolerably well adapted to a plain passion: but we must not in any of them expect a sentiment expressive of character; and, upon that very account, our late performances of the dramatic kind are for the most part intolerably insipid.

But it may be proper to illustrate this subject by examples. The first examples shall be of sentiments that appear the legitimate offspring of passion; to which shall be opposed what are descriptive only, and illegitimate: and in making this comparison, the instances shall be borrowed from Shakespeare and Corneille, who for genius in dramatic composition stand uppermost in the rolls of fame.

I. Shakespeare shall furnish the first example, being of sentiments dictated by a violent and perturbed passion:

Lear. ————— Filial ingratitude!
Is it not as if this mouth should tear this hand
For lifting food to't?—But I'll punish home;
No, I will weep no more.—In such a night,
To shut me out!—Pour on, I will endure.
In such a night as this! O Regan, Gonerill,
Your old kind father, whose frank heart gave all—
O! that way madness lies; let me shun that;
No more of that. —————

Kent. Good, my lord, enter here.

Lear. Prithee, go in thyself, seek thine own ease,
This tempest will not give me leave to ponder
On things would hurt me more:—but I'll go in;
In, boy, go first. You houseless poverty—
Nay, get thee in; I'll pray, and then I'll sleep—
Poor naked wretches, wheresoe'er you are,
That bide the pelting of this pitiless storm!
How shall your houseless heads, and unfed sides,
Your loop'd and window'd raggedness defend you
From seasons such as these!—O I have ta'en
Too little care of this! take physic, Pomp;
Expose thyself to feel what wretches feel,

Sentiments. That thou may'st shake the superflux to them,
And show the heav'ns more just.

King Lear, act 3. sc. 5.

With regard to the French author, truth obliges us to acknowledge, that he describes in the style of a spectator, instead of expressing passion like one who feels it; which naturally betrays him into a tiresome monotony, and a pompous declamatory style. It is scarce necessary to give examples, for he never varies from that tone. We shall, however, take two passages at a venture, in order to be confronted with those transcribed above. In the tragedy of Cinna, after the conspiracy was discovered, Æmilia, having nothing in view but racks and death to herself and her lover, receives a pardon from Augustus, attended with the brightest circumstances of magnanimity and tenderness. This is a lucky situation for representing the passions of surprise and gratitude in their different stages, which seem naturally to be what follow. These passions, raised at once to the utmost pitch, and being at first too big for utterance, must, for some moments, be expressed by violent gestures only: so soon as there is vent for words, the first expressions are broken and interrupted: at last, we ought to expect a tide of intermingled sentiments, occasioned by the fluctuation of the mind between the two passions. Æmilia is made to behave in a very different manner: with extreme coolness she describes her own situation, as if she were merely a spectator; or rather the poet takes the task off her hands:

Et je me rends, Seigneur, à ces hautes bontés:
Je recouvre la vue auprès de leurs clartés.
Je connois mon forfait qui me sembloit justice;
Et ce que n'avoit pu la terreur du supplice,
Je sens naître en mon ame un repentir puissant,
Et mon cœur en secret me dit, qu'il y consent.
Le ciel a résolu votre grandeur suprême;
Et pour preuve, Seigneur, je n'en veux que moi-même.
J'ose avec vanité me donner cet éclat,
Puisqu'il change mon cœur, qu'il veut changer l'état.
Ma haine va mourir, que j'ai crue immortelle;
Elle est morte, et ce cœur devient sujet fidèle;
Et prenant désormais cette haine en horreur,
L'ardeur de vous servir succède à sa fureur.

Act 5. sc. 3.

So much in general upon the genuine sentiments of passion. We proceed to particular observations. And, first, passions seldom continue uniform any considerable time: they generally fluctuate, swelling and subsiding by turns, often in a quick succession; and the sentiments cannot be just unless they correspond to such fluctuation. Accordingly, a climax never shows better than in expressing a swelling passion: the following passages may suffice for an illustration.

Almeria. ————— How hast thou charm'd
The wildness of the waves and rocks to this;
That thus relenting they have giv'n thee back
To earth, to light and life, to love and me?

Mourning Bride, act 1. sc. 7.

I would not be the villain that thou think'st
For the whole space that's in the tyrant's grasp,
And the rich earth to boot.

Macbeth, act 4. sc. 4.
The

Sentiments. The following passage expresses finely the progress of conviction.

Let me not stir, nor breathe, lest I dissolve
That tender, lovely form, of painted air,
So like Almeria. Ha! it sinks, it falls;
I'll catch it e'er it goes, and grasp her shade.
'Tis life! 'tis warm! 'tis she! 'tis she herself!
It is Almeria! 'tis, it is my wife!

Mourning Bride, act 2. sc. 6.

In the progress of thought our resolutions become more vigorous as well as our passions.

If ever I do yield or give consent,
By any action, word, or thought, to wed
Another lord; may then just heav'n show'r down, &c.

Mourning Bride, act 1. sc. 1.

And this leads to a second observation, That the different stages of a passion, and its different directions, from birth to extinction, must be carefully represented in their order; because otherwise the sentiments, by being misplaced, will appear forced and unnatural. — Resentment, for example, when provoked by an atrocious injury, discharges itself first upon the author: sentiments therefore of revenge come always first, and must in some measure be exhausted before the person injured think of grieving for himself. In the *Cid* of Corneille, Don Diegue having been affronted in a cruel manner, expresses scarce any sentiment of revenge, but is totally occupied in contemplating the low situation to which he is reduced by the affront:

O rage! ô desespoir! ô vieillesse ennemie!
N'ai-je donc tant vécu que pour cette infamie?
Et ne suis-je blanchi dans les travaux guerriers,
Que pour voir en un jour flétrir tant de lauriers?
Mon bras, qu'avec respect tout l'Espagne admire,
Mon bras qui tant de fois a sauvé cet empire,
Tant de fois affermi le trône de son roi,
Trahit donc ma querelle, et ne fait rien pour moi!
O cruel souvenir de ma gloire passé!
Oeuvre de tant de jours en un jour effacée!
Nouvelle dignité fatale à mon bonheur!
Precipice élevé d'où tombe mon honneur!
Faut-il de votre éclat voir triompher le comte,
Et mourir sans vengeance, ou vivre dans la honte?
Comte, fois de mon prince à présent gouverneur,
Ce haut rang n'admet point un homme sans honneur;
Et ton jaloux orgueil par cet affront insigne,
Malgré le choix du roi, m'en a dû rendre indigne.
Et toi, de mes exploits glorieux instrument,
Mais d'un corps tout de glace inutile ornement,
Fer jadis tant à craindre, et qui dans cette offense,
M'as servi de parade, et non pas de défense,
Va, quitte désormais le dernier des humains,
Passe pour me venger en de meilleures mains.

Le Cid, act 1. sc. 7.

These sentiments are certainly not the first that are suggested by the passion of resentment. As the first movements of resentment are always directed to its object, the very same is the case of grief. Yet with relation to the sudden and severe distemper that seized Alexander bathing in the river Cydnus, Quintus Curtius describes the first emotions of the army as directed to themselves, lamenting that they were left without a leader, far from home, and had scarce any hopes of re-

turning in safety: their king's distress, which must naturally have been their first concern, occupies them but in the second place according to that author. In the *Aminta* of Tasso, Sylvia, upon a report of her lover's death, which she believed certain, instead of bemoaning the loss of her beloved, turns her thoughts upon herself, and wonders her heart does not break:

Ohime, ben son di fasso,
Poi che questa novella non m'uccide. *Act 4. sc. 2.*

In the tragedy of *Jane Shore*, Alicia, in the full purpose of destroying her rival, has the following reflection:

Oh Jealousy! thou bane of pleasing friendship,
Thou worst invader of our tender bosoms;
How does thy rancour poison all our softness,
And turn our gentle nature into bitterness!
See where she comes! Once my heart's dearest blessing,
Now my chang'd eyes are blasted with her beauty,
Loathe that known face, and sicken to behold her.

Act 3. sc. 1.

These are the reflections of a cool spectator. A passion, while it has the ascendant, and is freely indulged, suggests not to the person who feels it any sentiment to its own prejudice: reflections like the foregoing occur not readily till the passion has spent its vigour.

A person sometimes is agitated at once by different passions; and the mind in that case, vibrating like a pendulum, vents itself in sentiments that partake of the same vibration. This we give as a third observation:

Queen. Would I had never trod this English earth,
Or felt the flatteries that grow upon it!
Ye've angels faces, but heav'n knows your hearts.
What shall become of me now? wretched lady!
I am the most unhappy woman living.
Alas! poor wenches, where are now your fortunes?

[To her women.]

Shipwreck'd upon a kingdom, where no pity,
No friends, no hope, no kindred, weep for me!
Almost no grave allow'd me.

Henry VIII. act 3. sc. 1.

Othello. Oh devil, devil!
If that the earth could teem with woman's tears,
Each drop she falls would prove a crocodile.
Out of my sight!

Desdemona. I will not stay t'offend you. [Going.]

Lodovico. Truly, an obedient lady:

I do beseech your lordship, call her back.

Oth. Mistress —

Des. My lord.

Oth. What would you with her, Sir?

Lod. Who, I, my lord?

Oth. Ay; you did wish that I would make her turn.

Sir, she can turn and turn, and yet go on;

And turn again. And she can weep, Sir, weep;

And she's obedient: as you say, obedient:

Very obedient—proceed you in your tears—

Concerning this, Sir,—oh well-painted passion!

I am commanded home—get you away,

I'll send for you anon—Sir, I obey the mandate,

And will return to Venice.—Hence, avaunt!

[Exit Desdemona.]

Othello, act 4. sc. 6.

Emilia.

Sentiments.

Amilia. Oh! my good lord, I would speak a word with you.

Othello. Yes, 'tis *Amilia*—By and by.—She's dead. 'Tis like she comes to speak of *Cassio*'s death; The noise was high.—Ha! no more moving? Still as the grave. Shall she come in? wer't good? I think she stirs again—No—what's the best? If she come in, she'll, sure, speak to my wife: My wife! my wife! what wife? I have no wife; Oh insupportable! oh heavy hour!

Othello, act 5. sc. 7.

A fourth observation is, That nature, which gave us passions, and made them extremely beneficial when moderate, intended undoubtedly that they should be subjected to the government of reason and conscience. It is therefore against the order of nature, that passion in any case should take the lead in contradiction to reason and conscience: such a state of mind is a sort of anarchy which every one is ashamed of and endeavours to hide or dissemble. Even love, however laudable, is attended with a conscious shame when it becomes immoderate: it is covered from the world, and disclosed only to the beloved object:

Et que l'amour souvent de remors combattu
Paroisse une foiblesse, et non une vertu.

Boileau, l'Art Poet. chant. 3. l. 101.

O, they love least that let men know they love.

Two Gentlemen of Verona, act 1. sc. 3.

Hence a capital rule in the representation of immoderate passions, that they ought to be hid or dissembled as much as possible. And this holds in an especial manner with respect to criminal passions: one never counsels the commission of a crime in plain terms; guilt must not appear in its native colours, even in thought; the proposal must be made by hints, and by representing the action in some favourable light. Of the propriety of sentiment upon such an occasion, *Shakespeare*, in the *Tempest*, has given us a beautiful example, in a speech by the usurping duke of Milan, advising *Sebastian* to murder his brother the king of Naples:

Antonio. ———— What might,
Worthy *Sebastian*,—O, what might—no more.
And yet, methinks, I see it in thy face
What thou shouldst be: the occasion speaks thee, and
My strong imagination sees a crown
Dropping upon thy head.

Act 2. sc. 2.

A picture of this kind, perhaps still finer, is exhibited in *King John*, where that tyrant solicits (act 3. sc. 5.) *Hubert* to murder the young prince *Arthur*; but it is too long to be inserted here.

II. As things are best illustrated by their contraries, we proceed to faulty sentiments, disdaining to be indebted for examples to any but the most approved authors. The first class shall consist of sentiments that accord not with the passion; or, in other words, sentiments that the passion does not naturally suggest. In the second class shall be ranged sentiments that may belong to an ordinary passion, but unsuitable to it as tinged by a singular character. Thoughts that properly are not sentiments, but rather descriptions, make a third. Sentiments that belong to the passion represented, but are faulty as being introduced too early or

too late, make a fourth. Vicious sentiments exposed in their native dress, instead of being concealed or disguised, make a fifth. And in the last class shall be collected sentiments suited to no character nor passion, and therefore unnatural.

The first class contains faulty sentiments of various kinds, which we shall endeavour to distinguish from each other.

1. Of sentiments that are faulty by being above the tone of the passion, the following may serve as an example:

Othello. ———— O my soul's joy!

If after every tempest come such calms,
May the winds blow till they have waken'd death:
And let the labouring bark climb hills of seas
Olympus high, and duck again as low
As hell's from heaven?

Othello, act 2. sc. 6.

This sentiment may be suggested by violent and inflamed passion; but is not suited to the satisfaction, however great, that one feels upon escaping danger.

2. Instance of sentiments below the tone of the passion. *Ptolemy*, by putting *Pompey* to death, having incurred the displeasure of *Cæsar*, was in the utmost dread of being dethroned: in that agitating situation, *Cornille* makes him utter a speech full of cool reflection, that is in no degree expressive of the passion.

Ah! si je t'avois crû, je n'aurois pas de maître,
Je serois dans le trône où le ciel m'a fait naître;
Mais c'est une imprudence assez commune aux rois,
D'écouter trop d'avis, et se tromper au choix.
Le Destin les aveugle au bord du précipice,
Ou si quelque lumière en leur ame se glisse,
Cette fausse clarté dont il les eblouit,
Le plonge dans une gouffre, et puis s'évanouit.

La Mort de Pompé, act 4. sc. 1.

3. Sentiments that agree not with the tone of the passion; as where a pleasant sentiment is grafted upon a painful passion, or the contrary. In the following instances, the sentiments are too gay for a serious passion:

No happier task these faded eyes pursue;
To read and weep is all they now can do.

Eloisa to Abelard. l. 47.

Again;

Heav'n first taught letters for some wretch's aid,
Some banish'd lover, or some captive maid:
They live, they speak, they breathe what love inspires,
Warm from the soul, and faithful to its fires;
The virgin's wish without her fears impart,
Excuse the blush, and pour out all the heart;
Speed the soft intercourse from soul to soul,
And waft a sigh from Indus to the pole.

Eloisa to Abelard, l. 51.

These thoughts are pretty: they suit *Pope*, but not *Eloisa*.

Satan, enraged by a threatening of the angel *Gabriel*, answers thus:

Then when I am thy captive, talk of chains,
Proud liminary cherub; but ere then
Far heavier load thyself expect to feel
From my prevailing arm, though heaven's King

Sentiments.

Ride on thy wings, and thou with thy compeers,
Us'd to the yoke, draw'st his triumphant wheels
In progress thro' the road of heav'n star-pav'd.

Paradise Lost, b. 4.

The concluding epithet forms a grand and delightful image, which cannot be the genuine offspring of rage.

4. Sentiments too artificial for a serious passion. The first example is a speech of Percy expiring.

O, Harry, thou hast robb'd me of my growth:
I better brook the loss of brittle life,
Than those proud titles thou hast won of me; [flesh.
They wound my thoughts worse than thy sword my
But thought's the slave of life, and life time's fool;
And time, that takes survey of all the world,
Must have a stop.

First Part, Henry IV. act 5. sc. 9.

The sentiments of the *Mourning Bride* are for the most part no less delicate than just copies of nature: in the following exception the picture is beautiful, but too artful to be suggested by severe grief.

Almeria. O no! Time gives increase to my afflictions.

The circling hours, that gather all the woes
Which are diffus'd through the revolving year,
Come heavy laden with th' oppressive weight
To me; with me, successively, they leave
The sighs, the tears, the groans, the restless cares,
And all the damps of grief, that did retard their flight;
They shake their downy wings, and scatter all
The dire collected dews on my poor head;
Then fly with joy and swiftness from me. *Act 1. sc. 1.*

In the same play, *Almeria* seeing a dead body, which she took to be *Alphonso's*, expresses sentiments strained and artificial, which nature suggests not to any person upon such an occasion:

Had they or hearts or eyes, that did this deed?
Could eyes endure to guide such cruel hands?
Are not my eyes guilty alike with theirs,
That thus can gaze, and yet not turn to stone?
—I do not weep! The springs of tears are dry'd,
And of a sudden I am calm, as if [der'd!
All things were well; and yet my husband's mur-
Yes, yes, I know to mourn: I'll sluice this heart,
The source of wo, and let the torrent in.

Act 5. sc. 11.

Pope's elegy to the memory of an unfortunate lady, expresses delicately the most tender concern and sorrow that one can feel for the deplorable fate of a person of worth. Such a poem, deeply serious and pathetic, rejects with disdain all fiction. Upon that account, the following passage deserves no quarter; for it is not the language of the heart, but of the imagination indulging its flights at ease, and by that means is eminently discordant with the subject. It would be a still more severe censure, if it should be ascribed to imitation, copying indiscreetly what has been said by others:

What tho' no weeping loves thy ashes grace,
Nor polish'd marble emulate thy face?
What though no sacred earth allow thee room,
Nor hallow'd dirge be mutter'd o'er thy tomb?

Sentiments.

Yet shall thy grave with rising flow'rs be dress'd,
And the green turf lie lightly on thy breast:
There shall the morn her earliest tears bestow,
There the first roses of the year shall blow;
While angels with their silver wings o'er shade
The ground, now sacred by thy relics made.

5. Fanciful or finical sentiments. Sentiments that degenerate into point or conceit, however they may amuse in an idle hour, can never be the offspring of any serious or important passion. In the *Jerusalem* of Tasso, Tancred, after a single combat, spent with fatigue and loss of blood, falls into a swoon; in which situation, understood to be dead, he is discovered by Erminia, who was in love with him to distraction. A more happy situation cannot be imagined, to raise grief in an instant to its highest pitch; and yet, in venting her sorrow, she descends most abominably into antithesis and conceit even of the lowest kind:

E in lui versò d'inefficabil vena
Lacrime, e voce di sospiri mista.
In che misero punto hor qui me mena
Fortuna? a che veduta amara e trista?
Dopo gran tempo i' ti ritrovo à pena
Tancredi, e ti riveggio, e non son vista
Vista non son da te, benche presente
T' trovando ti perdo eternamente.

Canto 19. st. 105.

Armida's lamentation respecting her lover *Rinaldo* is in the same vicious taste. *Vid. canto 20. stan. 124, 125, 126.*

Queen. Give me no help in lamentation,
I am not barren to bring forth complaints:
All springs reduce their currents to mine eyes,
That I, being govern'd by the wat'ry moon,
May send forth plenteous tears to drown the world,
Ah, for my husband, for my dear lord Edward.
King Richard III. act 2. sc. 2.

Jane Shore utters her last breath in a witty conceit:

Then all is well, and I shall sleep in peace——
'Tis very dark, and I have lost you now——
Was there not something I would have bequeath'd you?
But I have nothing left me to bestow,
Nothing but one sad sigh. Oh mercy, Heav'n! [*Dies.*
Act 5.

Gilford to *Lady Jane Gray*, when both were condemned to die:

Thou stand'st unmov'd;
Calm temper sits upon thy beauteous brow;
Thy eyes that flow'd so fast for Edward's loss,
Gaze unconcern'd upon the ruin round thee,
As if thou had'st resolv'd to brave thy fate,
And triumph in the midst of desolation.
Ha! see, it swells, the liquid crystal rises,
It starts in spite of thee——but I will catch it,
Nor let the earth be wet with dew so rich.

Lady Jane Gray, act 4. near the end.

The concluding sentiment is altogether finical, unsuitable to the importance of the occasion, and even to the dignity of the passion of love.

Corneille,

Sentiments. Corneille, in his *Examen of the Cid*, answering an objection, That his sentiments are sometimes too much refined for persons in deep distress, observes, that if poets did not indulge sentiments more ingenious or refined than are prompted by passion, their performances would often be low, and extreme grief would never suggest but exclamations merely. 'This is in plain language to assert, that forced thoughts are more agreeable than those that are natural, and ought to be preferred.

The *second* class is of sentiments that may belong to an ordinary passion, but are not perfectly concordant with it, as tinged by a singular character.

In the last act of that excellent comedy *The Careless Husband*, Lady Easy, upon Sir Charles's reformation, is made to express more violent and turbulent sentiments of joy than are consistent with the mildness of her character.

Lady Easy. O the soft treasure! O the dear reward of long-desiring love.—Thus! thus to have you mine, is something more than happiness; 'tis double life, and madness of abounding joy.

The following instances are descriptions rather than sentiments, which compose a *third* class.

Of this descriptive manner of painting the passions, there is in the *Hippolytus* of Euripides, *act* v. an illustrious instance, viz. the speech of Theseus, upon hearing of his son's dismal exit. In Racine's tragedy of *Esther*, the queen hearing of the decree issued against her people, instead of expressing sentiments suitable to the occasion, turns her attention upon herself, and describes with accuracy her own situation.

Juste ciel! tout mon sang dans mes veines se glace.

Act 1. *sc.* 3.

Again,

Aman. C'en est fait. Mon orgueil est forcé de plier. L'inexorable Aman est réduit à prier.

Esther, act 3. *sc.* 5.

Athalie. Quel prodige nouveau me trouble et m'embarrasse?

La douceur de sa voix, son enfance, sa grace,

Font insensiblement à mon inimitié

Succéder — Je ferois sensible à la pitié?

Athalie, act 2. *sc.* 7.

Titus. O de ma passion fureur desespérée!

Brutus of Voltaire, act 3. *sc.* 6.

What other are the foregoing instances but describing the passion another feels?

The *fourth* class is of sentiments expressed too early or too late.

Some examples mentioned above belong to this class. Add the following from *Venice Preserv'd*, *act* 5. at the close of the scene between Belvidera and her father Priuli. The account given by Belvidera of the danger she was in, and of her husband's threatening to murder her, ought naturally to have alarmed her relenting father, and to have made him express the most perturbed sentiments. Instead of which, he dissolves into tenderness and love for his daughter, as if he had already delivered her from danger, and as if there were a perfect tranquillity.

Sentiments. Canst thou forgive me all my follies past! I'll henceforth be indeed a father; never, Never more thus expose, but cherish thee, Dear as the vital warmth that feeds my life, Dear as those eyes that weep in fondness o'er thee: Peace to thy heart.

Immoral sentiments exposed in their native colours, instead of being concealed or disguised, compose the *fifth* class.

The Lady Macbeth, projecting the death of the king, has the following soliloquy:

————— The raven himself's not hoarse That croaks the fatal entrance of Duncan Under my battlements. Come, all you spirits That tend on mortal thoughts, unsex me here, And fill me from the crown to the toe, top full Of direct cruelty; make thick my blood, Stop up th' access and passage to remorse, That no compunctious visitings of nature Shake my fell purpose. *Macbeth, act* 1. *sc.* 7.

This speech is not natural. A treacherous murder was never perpetrated even by the most hardened miscreant without compunction: and that the lady here must have been in horrible agitation, appears from her invoking the infernal spirits to fill her with cruelty, and to stop up all avenues to remorse. But in that state of mind it is a never-failing artifice of self-deceit to draw the thickest veil over the wicked action, and to extenuate it by all the circumstances that imagination can suggest: and if the crime cannot bear disguise, the next attempt is to thrust it out of mind altogether, and to rush on to action without thought. This last was the husband's method.

Strange things I have in head, that will to hand; Which must be acted ere they must be scann'd.

Act 3. *sc.* 5.

The lady follows neither of these courses, but in a deliberate manner endeavours to fortify her heart in the commission of an execrable crime, without even attempting to colour it. This, we think, is not natural; we hope there is no such wretch to be found as is here represented.

The *last* class comprehends sentiments that are unnatural, as being suited to no character nor passion. These may be subdivided into three branches: first, sentiments unsuitable to the constitution of man, and to the laws of his nature; second, inconsistent sentiments; third, sentiments that are pure rant and extravagance.

When the fable is of human affairs, every event, every incident, and every circumstance, ought to be natural, otherwise the imitation is imperfect. But an imperfect imitation is a venial fault, compared with that of running cross to nature. In the *Hippolytus* of Euripides (*act* iv. *sc.* 5.), Hippolytus, wishing for another self in his own situation, "How much (says he) should I be touched with his misfortune!" as if it were natural to grieve more for the misfortune of another than for one's own.

O/myn. Yet I behold her—yet—and now no more. Turn your lights inward, eyes, and view my thought; So shall you still behold her—"Twill not be.

Sentiments. O impotence of sight ! mechanic sense,
Which to exterior objects ow'ft thy faculty,
Not seeing of election, but necessity,
Thus do our eyes, as do all common mirrors,
Successively reflect succeeding images.
Nor what they would, but must ; a star or toad ;
Just as the hand of chance administers !

Mourning Bride, act 2. sc. 8.

No man, in his senses, ever thought of applying his eyes to discover what passes in his mind ; far less of blaming his eyes for not seeing a thought or idea. In Moliere's *L'Avare* (*act iv. sc. 7.*) Harpagon, being robbed of his money, seizes himself by the arm, mistaking it for that of the robber. And again he expresses himself as follows :

Je veux aller querir la justice, et faire donner la question à toute ma maison ; à servantes, à valets, à fils, à fille, et à moi aussi.

This is so absurd as scarce to provoke a smile, if it be not at the author.

Of the second branch the following example may suffice :

————— Now bid me run,
And I will strive with things impossible,
Yea, get the better of them.

Julius Caesar, act 2. sc. 3.

Of the third branch, take the following samples. Lucan, talking of Pompey's sepulchre,

————— Romanum nomen, et omne
Imperium magno est tumuli modus. Obrue saxa
Crimine plena deum. Si tota est Herculis Oete,
Et juga tota vacant Bromio Nyseia ; quare
Unus in Egypto Magno lapis ? Omnia Lagi
Rura tenere potest, si nullo cespite nomen
Hæserit. Erremus populi, cinerumque tuorum,
Magne, metu nullas Nili calcemus arenas.

L. viii. l. 798.

Thus, in Rowe's translation :

Where there are seas, or air, or earth, or skies,
Where'er Rome's empire stretches, Pompey lies.
Far be the vile memorial then convey'd !
Nor let this stone the partial gods upbraid.
Shall Hercules all Oeta's heights demand,
And Nyse's hill for Bacchus only stand ;
While one poor pebble is the warrior's doom
That fought the cause of liberty and Rome ?
If Fate decrees he must in Egypt lie,
Let the whole fertile realm his grave supply,
Yield the wide country to his awful shade,
Nor let us dare on any part to tread,
Fearful we violate the mighty dead.

The following passages are pure rant. Coriolanus, speaking to his mother,

What is this ?
Your knees to me ? to your corrected son ?
Then let the pebbles on the hungry beach
Fillop the stars : then let the mutinous winds
Strike the proud cedars 'gainst the fiery sun :
Murdering impossibility, to make
What cannot be, slight work.

Coriolanus, act 5. sc. 3.

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Caesar. — Danger knows full well,
That Caesar is more dangerous than he.
We were two lions litter'd in one day,
And I the elder and more terrible.

Julius Caesar, act 2. sc. 4.

Ventidius. But you, ere love misled your wand'ring eyes,

Were sure the chief and best of human race,
Fram'd in the very pride and boast of nature,
So perfect, that the gods who form'd you wonder'd
At their own skill, and cry'd, A lucky hit
Has mended our design. *Dryden, All for Love, act 1.*

Not to talk of the impiety of this sentiment, it is ludicrous instead of being lofty.

The famous epitaph on Raphael is not less absurd than any of the foregoing passages :

Raphael, timuit, quo sospite, vinci,
Rerum magna parens, et moriente mori.

Imitated by Pope, in his epitaph on Sir Godfrey Kneller :

Living, great Nature fear'd he might outvie
Her works ; and dying, fears herself may die.

Such is the force of imitation ; for Pope of himself would never have been guilty of a thought so extravagant.

SENTINEL, or **SENTRY**, in military affairs, a private soldier placed in some post to watch the approach of the enemy, to prevent surprises, to stop such as would pass without orders or discovering who they are. They are placed before the arms of all guards, at the tents and doors of general officers, colonels of regiments, &c.

SENTINEL Perdu, a soldier posted near an enemy, or in some very dangerous post where he is in hazard of being lost.

All sentinels are to be vigilant on their posts ; neither are they to sing, smoke tobacco, nor suffer any noise to be made near them. They are to have a watchful eye over the things committed to their charge. They are not to suffer any light to remain, or any fire to be made, near their posts in the night-time ; neither is any sentry to be relieved or removed from his post but by the corporal of the guard. They are not to suffer any one to touch or handle their arms, or in the night-time to come within ten yards of their post.

No person is to strike or abuse a sentry on his post ; but when he has committed a crime, he is to be relieved, and then punished according to the rules and articles of war.

A sentinel, on his post in the night, is to know nobody but by the counter-sign : when he challenges, and is answered, *Relief*, he calls out, *Stand, relief ! advance, corporal !* upon which the corporal halts his men, and advances alone within a yard of the sentry's firelock (first ordering his party to rest, on which the sentry does the same), and gives him the counter-sign, taking care that no one hear it.

SEPIA, the **CUTTLE-FISH**, a genus belonging to the order of vermes molusca. There are eight brachia interspersed on the interior side, with little round serrated cups, by the contraction of which the animal lays fast hold of any thing. Besides these eight arms,

N n

it

Sentiments

||
Sepia.

Sepia.

it has two tentacula longer than the arms, and frequently pedunculated. The mouth is situated in the centre of the arms, and is horny and hooked, like the bill of a hawk. The eyes are below the tentacula, towards the body of the animal. The body is fleshy, and received into a sheath as far as the breast. Their food are tunnies, sprats, lobsters, and other shell-fish. With their arms and trunks they fasten themselves, to resist the motion of the waves. Their beak is like that of a parrot. The females are distinguished by two paps. They copulate as the polypi do, by a mutual embrace, and lay their eggs upon sea-weed and plants, in parcels like bunches of grapes. Immediately after they are laid they are white, and the males pass over and impregnate them with a black liquor, after which they grow larger. On opening the egg, the embryo-cuttle is found alive. The males are very constant, accompany their females everywhere, face every danger in their defence, and rescue them intrepidly at the hazard of their own lives. The timorous females fly as soon as they see the males wounded. The noise of a cuttle-fish, on being dragged out of the water, resembles the grunting of a hog. When the male is pursued by the sea-wolf or other ravenous fish, he shuns the danger by stratagem. He squirts his black liquor, sometimes to the quantity of a dram, by which the water becomes black as ink, under shelter of which he baffles the pursuit of his enemy. This ink or black liquor has been denominated by Mr le Cat *æthiops animal*, and is reserved in a particular gland. In its liquid state it resembles that of the chorioid in man; and would then communicate an indelible dye; when dry, it might be taken for the product of the black liquor in negroes dried, and made a precipitate by spirit of wine. This *æthiops animal* in negroes as well as in the cuttle-fish, is more abundant after death than even during life. It may serve either for writing or printing; in the former of which ways the Romans used it. It is said to be an ingredient in the composition of Indian ink mixed with rice. There are five species.

1. The *loligo*, or great cuttle, with short arms and long tentacula; the lower part of the body rhomboid and pinnated, the upper thick and cylindric. They inhabit all our seas, where having blackened the water by the effusion of their ink, they abscond, and with their tail leap out of the water. They are gregarious and swift in their motions: they take their prey by means of their arms; and embracing it, bring it to their central mouth. They adhere to the rocks, when they wish to be quiescent, by means of the concave discs that are placed along their arms.

2. The *octopodia*, with eight arms, connected at their bottom by a membrane. This is the *polypus* of Pliny, which he distinguishes from the *loligo* and *sepia* by the want of the tail and tentacula. They inhabit our seas, but are most at home in the Mediterranean. In hot climates these are found of an enormous size. The Indians affirm, that some have been seen two fathoms broad over their centre, and each arm nine fathoms long. When the Indians navigate their little boats, they go in dread of them; and lest these animals should sling their arms over and sink them, they never sail without an ax to cut them off. When used for food they are served up red from their own liquor,

which from boiling with the addition of nitre becomes red. Barthol. says, upon cutting one of them open, so great a light broke forth, that at night, upon taking away the candle, the whole house seemed to be in a blaze.

3. The *media*, or middle cuttle, with a long, slender, cylindric body; tail finned, pointed, and carinated on each side; two long tentacula; the body almost transparent, green, but convertible into a dirty brown; confirming the remark of Pliny*, that they change their colour through fear, adapting it, chameleon-like, to that of the place they are in. The eyes are large and smaragdine.

4. The *sepiola*, or small cuttle, with a short body, rounded at the bottom, has a round fin on each side and two tentacula. They are taken off Flintshire, but chiefly inhabit the Mediterranean.

5. The *officinalis*, or officinal cuttle, with an ovated body, has fins along the whole of the sides, almost meeting at the bottom; and two long tentacula. The body contains the bone, the cuttle-bone of the shops, which was formerly used as an absorbent. The bones are frequently flung on all our shores; the animal very rarely. The conger eels bite off their arms, or feet; but they grow again, as does the lizard's tail (Plin. ix. 29). They are preyed upon by the plaice. This fish emits (in common with the other species), when frightened or pursued, the black liquor which the ancients supposed darkened the circumambient wave, and concealed it from the enemy.

The endanger'd cuttle thus evades his fears,
And native hoards of fluid safety bears.
A pitchy ink peculiar glands supply,
Whose shades the sharpest beam of light defy.
Pursu'd, he bids the fable fountains flow,
And, wrapt in clouds, eludes th' impending foe.
The fish retreats unseen, while self-born night,
With pious shade befriends her parent's flight.

The ancients sometimes made use of it instead of ink. Persius mentions the species in his description of the noble student.

*Jam liber, et bicolor positis membrana capillis,
Inque manus charta, nodasque venit arundo.
Tum querimur, crassus calamo quod pendeat humor;
Nigra quod infusa venescat sepia lympba.
At length, his book he spreads, his pen he takes;
His papers here in learned order lays,
And there his parchment's smoother side displays.
But oh! what crosses wait on studious men!
The cuttle's juice hangs clotted at our pen.
In all my life such stuff I never knew,
So gummy thick—Dilute it, it will do.
Nay, now 'tis water! DRYDEN.*

This animal was esteemed a delicacy by the ancients, and is eaten even at present by the Italians. Rondeletius gives us two receipts for the dressing, which may be continued to this day. Athenæus also leaves us the method of making an antique cuttle-fish sausage; and we learn from Aristotle, that those animals are in highest season when pregnant.

SEPIARIÆ, (from *sepes*, "a hedge"), the name of the 44th order of Linnæus's Fragments of a Natural Method,

Sepia,
Sepiariæ.

Seps
||
Septentrio.

Method, consisting of a beautiful collection of woody plants, some of which, from their size and elegance, are very proper furniture for hedges. See BOTANY, p. 467.

SEPS, in zoology, a species of LACERTA.

SEPTARIÆ, in natural history, a large class of fossils, commonly known by the names of *ludus Helmontii* and *waxen veins*.

They are defined to be fossils not inflammable, nor soluble in water; of a moderately firm texture and dusky hue, divided by several septa or thin partitions, and composed of a sparry matter greatly debased by earth; not giving fire with steel; fermenting with acids, and in great part dissolved by them; and calcining in a moderate fire.

Of this class there are two distinct orders of bodies, and under those six genera. The septariæ of the first order are those which are usually found in large masses, of a simple uniform construction, but divided by large septa either into larger and more irregular portions, or into smaller and more equal ones, called *talc*. The genera of this order are four. 1. Those divided by septa of spar, called *secomia*: 2. Those divided by septa of earthy matter, called *gaiophragmia*: 3. Those divided by septa of the matter of the pyrites, called *pyritercia*: And, 4. Those divided by septa of spar, with an admixture of crystal, called *diagophragmia*.

Those of the second order are such as are usually found in smaller masses, of a crustated structure, formed by various incrustations round a central nucleus, and divided by very thin septa. Of this order are only two genera. 1. Those with a short roundish nucleus, inclosed within the body of the mass; and, 2. Those with a long nucleus, standing out beyond the ends of the mass.

SEPTAS, in botany: A genus of plants belonging to the order of *Heptagynia*, and the class of *Heptandria*; and in the natural system ranged under the 13th order, *Succulenta*. The calyx is divided into seven parts; the petals are seven; the germens seven: the capsules are also seven, and contain many seeds. There is only one species, the *Capensis*, which is a native of the Cape of Good Hope, is round-leaved, and flowers in August or September.

SEPTEMBER, the ninth month of the year, consisting of only thirty days; it took its name as being the seventh month, reckoning from March, with which the Romans began their year.

SEPTENNIAL, any thing lasting seven years.

SEPTENNIAL Elections. Blackstone, in his *Commentaries*, Vol. I. p. 189. says, (after observing that the utmost extent of time allowed the same parliament to sit by the stat. 6 W. and M. c. 2. was three years), "But, by the statute 1 Geo. I. st. 2. c. 38. (in order *professedly* to prevent the great and continued expences of frequent elections, and the violent heats and animosities consequent thereupon, and for the peace and security of the government, just then recovering from the late rebellion), this term was prolonged to seven years; and what alone is an instance of the vast authority of parliament, the very same house that was chosen for three years enacted its own continuance for seven."

SEPTENTRIO, in astronomy, a constellation, more usually called *ursa minor*.

In cosmography, the term *septentrio* denotes the same with *north*: and hence septentrional is applied to any thing belonging to the north; as *septentrional signs, parallels, &c.*

Septic,
Septizon.

SEPTICS, are those substances which promote putrefaction, chiefly the calcareous earths, magnesia, and testaceous powders. From the many curious experiments made by Sir John Pringle to ascertain the *septic* and *antiseptic* virtues of natural bodies, it appears that there are very few substances of a truly *septic* nature. Those commonly reputed such by authors, as the alkaline and volatile salts, he found to be no wise *septic*. However, he discovered some, where it seemed least likely to find any such quality; these were chalk, common salt, and testaceous powders. He mixed twenty grains of crabs eyes, prepared with six drams of ox's gall, and an equal quantity of water. Into another phial he put an equal quantity of gall and water, but no crabs-eyes. Both these mixtures being placed in the furnace, the putrefaction began much sooner, where the powder was, than in the other phial. On making a like experiment with chalk, its *septic* virtue was found to be much greater than that of the crabs-eyes: nay, what the doctor had never met with before, in a mixture of two drams of flesh, with two ounces of water and thirty grains of prepared chalk, the flesh was resolved into a perfect mucus in a few days.

To try whether the testaceous powders would also dissolve vegetable substances, the doctor mixed them with barley and water, and compared this mixture with another of barley and water alone. After a long maceration by a fire, the plain water was found to swell the barley, and turn mucilaginous and sour; but that with the powder kept the grain to its natural size, and though it softened it, yet made no mucilage, and remained sweet.

Nothing could be more unexpected, than to find sea salt a hastener of putrefaction; but the fact is thus; one dram of salt preserves two drams of fresh beef in two ounces of water, above thirty hours uncorrupted, in a heat equal to that of the human body; or, which is the same thing, this quantity of salt keeps flesh sweet twenty hours longer than pure water; but then half a dram of salt does not preserve it above two hours longer. Twenty-five grains have little or no antiseptic virtue, and ten, fifteen, or even twenty grains, manifestly both hasten and heighten the corruption. The quantity which had the most putrefying quality, was found to be about ten grains to the above proportion of flesh and water.

Many inferences might be drawn from this experiment: one is, that since salt is never taken in aliment beyond the proportion of the corrupting quantities, it would appear that it is subservient to digestion chiefly by its *septic* virtue, that is, by softening and resolving meats; an action very different from what is commonly believed.

It is to be observed, that the above experiments were made with the salt kept for domestic uses. See Pringle's *Observ. on the Diseases of the army*, p. 348, et seq.

SEPTIZON, or SEPTIZONIUM, in Roman antiquity, a celebrated mausoleum, built by Septimus Severus, in the tenth region of the city of Rome: it was so

Septuagesima, Septuaginta. called from *septem* and *zona*, by reason it consisted of seven stories, each of which was surrounded by a row of columns.

SEPTUAGESIMA, in the kalendar, denotes the third Sunday before Lent, or before Quadragesima Sunday: supposed by some to take its name from its being about seventy days before Easter.

SEPTUAGINT, the name given to a Greek version of the books of the Old Testament, from its being supposed to be the work of seventy-two Jews, who are usually called the *seventy interpreters*, because seventy is a round number.

The history of this version is expressly written by Aristæas, an officer of the guards to Ptolemy Philadelphus, the substance of whose account is as follows: Ptolemy having erected a fine library at Alexandria, which he took care to fill with the most curious and valuable books from all parts of the world, was informed that the Jews had one containing the laws of Moses, and the history of that people; and being desirous of enriching his library with a Greek translation of it, applied to the high-priest of the Jews; and to engage him to comply with his request, set at liberty all the Jews whom his father Ptolemy Soter had reduced to slavery. After such a step, he easily obtained what he desired; Eleazar the Jewish high-priest sent back his ambassadors with an exact copy of the Mosaical law, written in letters of gold, and six elders of each tribe, in all seventy-two; who were received with marks of respect by the king, and then conducted into the isle of Pharos, where they were lodged in a house prepared for their reception, and supplied with every thing necessary. They set about the translation without loss of time, and finished it in seventy-two days: and the whole being read in the presence of the king, he admired the profound wisdom of the laws of Moses; and sent back the deputies laden with presents, for themselves, the high-priest, and the temple.

Aristobulus, who was tutor to Ptolemy Physcon, Philo who lived in our Saviour's time, and was contemporary with the apostles, and Josephus, speak of this translation as made by 72 interpreters, by the care of Demetrius Phalereus in the reign of Ptolemy Philadelphus. All the Christian writers, during the first 15 centuries of the Christian era, have admitted this account of the Septuagint as an undoubted fact. But since the reformation, critics have boldly called it in question, because it was attended with circumstances which they think inconsistent, or, at least, improbable. Du Pin has asked, why were 72 interpreters employed, since 12 would have been sufficient? Such an objection is trifling. We may as well ask, why did king James I. employ 54 translators in rendering the Bible into English, since Du Pin thinks 12 would have been sufficient?

1. Prideaux objects, that the Septuagint is not written in the Jewish, but in the Alexandrian, dialect; and could not therefore be the work of natives of Palestine. But these dialects were probably at that time the same, for both Jews and Alexandrians had received the Greek language from the Macedonians about 50 years before.

2. Prideaux farther contends, that all the books of the Old Testament could not be translated at the same time; for they exhibit great difference of style. To this it is

sufficient to reply, that they were the work of 72 men, each of whom had separate portions assigned them.

3. The Dean also urges, that Aristæas, Aristobulus, Philo, and Josephus, all directly tell us, that the law was translated without mentioning any of the other sacred books. But nothing was more common among writers of the Jewish nation than to give this name to the Scriptures as a whole. In the New Testament law is used as synonymous with what we call the Old Testament. Besides, it is expressly said by Aristobulus, in a fragment quoted by Eusebius (*Præp. Evan.* l. 1.), that the whole Sacred Scripture was rightly translated through the means of Demetrius Phalereus, and by the command of Philadelphus. Josephus indeed, says the learned Dean, asserts, in the preface to his Antiquities, that the Jewish interpreters did not translate for Ptolemy the whole Scriptures, but the law only. Here the evidence is contradictory, and we have to determine, whether Aristobulus or Josephus be most worthy of credit. We do not mean, however, to accuse either of forgery, but only to inquire which had the best opportunities of knowing the truth. Aristobulus was an Alexandrian Jew, tutor to an Egyptian king, and lived within 100 years after the translation was made, and certainly had access to see it in the royal library. Josephus was a native of Palestine, and lived not until 300 years or more after the translation was made, and many years after it was burnt along with the whole library of Alexandria in the wars of Julius Cæsar. Supposing the veracity of these two writers equal, as we have no proof of the contrary, which of them ought we to consider as the best evidence? Aristobulus surely. Prideaux, indeed, seems doubtful whether there was ever such a man; and Dr Hody supposes that the Commentaries on the five books of Moses, which bear the name of Aristobulus, were a forgery of the second century. To prove the existence of any human being, who lived 2000 years before us, and did not perform such works as no mere man ever performed, is a task which we are not disposed to undertake; and we believe it would not be less difficult to prove that Philo and Josephus existed, than that such a person as Aristobulus did not exist. If the writings which have passed under his name were a forgery of the second century, it is surprising that they should have imposed upon Clemens Alexandrinus, who lived in the same century, and was a man of abilities, learning, and well acquainted with the writings of the ancients. Eusebius, too, in his *Præp. Evan.* quotes the commentaries of Aristobulus. But, continues the learned Dean, "Clemens Alexandrinus is the first author that mentions them. Now, had any such commentaries existed in the time of Philo and Josephus, they would surely have mentioned them. But is the circumstance of its not being quoted by every succeeding author a sufficient reason to disprove the authenticity of any book? Neither Philo nor Josephus undertook to give a list of preceding authors, and it was by no means the uniform practice of these times always to name the authors from whom they derived their information."

4. Prideaux farther contends, that the sum which Ptolemy is said to have given to the interpreters is too great to be credible. If his computation were just, it certainly would be so. He makes it L. 2,000,000 Sterling,

Septuagint. Sterling, but other writers * reduce it to L. 85,421, and some to L. 56,947; neither of which is a sum so very extraordinary in so great and magnificent a prince as Philadelphus, who spent, according to a passage in Athenæus (lib. v.), no less than 10,000 talents on the furniture of one tent; which is six times more than what was spent in the whole of the embassy and translation, which amounted only to 1552 talents.

* Blair's
Lectures on
the Canon.

Stilling-
fleet's Ori-
gines Sacra.

5. Prideaux says, "that what convicts the whole story of Aristæas of falsity is, that he makes Demetrius Phalereus to be the chief actor in it, and a great favourite of the king; whereas Philadelphus, as soon as his father was dead, cast him into prison, where he soon after died." But it may be replied, that Philadelphus reigned two years jointly with his father Lagus, and it is not said by Hermippus that Demetrius was out of favour with Philadelphus during his father's life. Now, if the Septuagint was translated in the beginning of the reign of Philadelphus, as Eusebius and Jerome think, the difficulty will be removed. Demetrius might have been librarian during the reign of Philadelphus, and yet imprisoned on the death of Lagus. Indeed, as the cause of Philadelphus's displeasure was the advice which Demetrius gave to his father, to prefer the sons of Arfinoë before the son of Berenice, he could scarcely show it till his father's death. The Septuagint translation might therefore be begun while Philadelphus reigned jointly with his father, but not be finished till after his father's death.

Prideaux's
Connections,
vol. iii.
b. i.

6. Besides the objections which have been considered, there is only one that deserves notice. The ancient Christians not only differ from one another concerning the time in which Aristobulus lived, but even contradict themselves in different parts of their works. Sometimes they tell us, he dedicated his book to Ptolemy Philometer, at other times they say, it was addressed to Philadelphus and his father. Sometimes they make him the same person who is mentioned in 2 Maccabees, chap. 1. and sometimes one of the 72 interpreters 152 years before. It is difficult to explain how authors fall into such inconsistencies, but it is probably occasioned by their quoting from memory. This was certainly the practice of almost all the early Christian writers, and sometimes of the apostles themselves. Mistakes were therefore inevitable. Josephus has varied in the circumstances of the same event, in his antiquities and wars of the Jews, probably from the same cause; but we do not hence conclude, that every circumstance of such a relation is entirely false. In the account of the Marquis of Argyle's death in the reign of Charles II. we have a very remarkable contradiction. Lord Clarendon relates, that he was condemned to be hanged, which was performed the same day: on the contrary, Burnet, Woodrow, Heath, Echard, concur in stating, that he was beheaded; and that he was condemned upon the Saturday and executed upon the Monday †. Was any reader of English history ever sceptic enough to raise from hence a question, whether the Marquis of Argyle was executed or not? Yet this ought to be left in uncertainty according to the way of reasoning in which the facts respecting the translation of the Septuagint is attempted to be disproved.

† Biograph.
Britan.

Such are the objections which the learned and ingenious Prideaux has raised against the common account of the Septuagint translation, and such are the answers

which may be given to them. We have chosen to support that opinion which is sanctioned by historical evidence, in preference to the conjectures of modern critics however ingenious; being persuaded, that there are many things recorded in history, which, though perfectly true, yet, from our imperfect knowledge of the concomitant circumstances, may, at a distant period, seem liable to objections. To those who require positive evidence, it may be stated thus. Aristæas, Aristobulus, Philo, and Josephus, assure us, that the law was translated. Taking the law in the most restricted sense, we have at least sufficient authority to assert, that the Pentateuch was rendered into Greek under Ptolemy Philadelphus. Aristobulus affirms, that the whole Scriptures were translated by the 72. Josephus confines their labours to the books of Moses. He therefore who cannot determine to which of the two the greatest respect is due, may suspend his opinion. It is certain, however, that many of the other books were translated before the age of our Saviour; for they are quoted both by him and his apostles: and, perhaps, by a minute examination of ancient authors, in the same way that Dr Lardner has examined the Christian fathers to prove the antiquity of the New Testament, the precise period in which the whole books of the Septuagint were composed might, with considerable accuracy, be ascertained.

For 400 years this translation was in high estimation with the Jews. It was read in their synagogues in preference to the Hebrew; not only in those places where Greek was the common language, but in many synagogues of Jerusalem and Judea. But when they saw that it was equally valued by the Christians, they became jealous of it, and at length, in the second century, Aquila, an apostate Christian, attempted to substitute another Greek translation in its place. In this work he was careful to give the ancient prophecies concerning the Messiah a different turn from the Septuagint, that they might not be applicable to Christ. In the same design he was followed by Symmachus and Theodotion, who also, as St Jerome informs us, wrote out of hatred to Christianity.

In the mean time, the Septuagint, from the ignorance, boldness, and carelessness of transcribers, became full of errors. To correct these, Origen published a new edition in the beginning of the third century, in which he placed the translations of Aquila, Symmachus, and Theodotion. This edition was called *Tetrapla*, the translations being arranged opposite to one another in four columns. He also added one column, containing the Hebrew text in Hebrew letters, and another exhibiting it in Greek. In a second edition he published two additional Greek versions; one of which was found at Nicopolis, and the other at Jericho: this was called the *Hexapla*. By comparing so many translations, Origen endeavoured to form a correct copy of the Scriptures. Where they all agreed, he considered them right. The passages which he found in the LXX, but not in the Hebrew text, he marked with an obelisk: what he found in the Hebrew, but not in the LXX, he marked with an asterisk. St Jerome says, that the additions which Origen made to the LXX, and marked with an asterisk, were taken from Theodotion. From this valuable work of Origen the version of the LXX was transcribed in a separate volume, with the asterisks and obelisks.

Septuagint. obelisks for the use of the churches; and from this circumstance the great work itself was neglected and lost.

About the year 300 two new editions of the LXX were published; the one by Hesychius an Egyptian bishop, and the other by Lucian a presbyter of Antioch. But as these authors did not mark with any note of distinction the alterations which they had made, their edition does not possess the advantages of Origen's.

The best edition of the LXX is that of Dr Grabe, which was published in the beginning of the present century. He had access to two MSS, nearly of equal antiquity, the one found in the Vatican library at Rome, the other in the Royal library at St James's, which was presented to Charles I. by Cyril, patriarch of Alexandria, and hence is commonly called the *Alexandrine MS.* Anxious to discover which of these was according to the edition of Origen, Dr Grabe collected the fragments of the Hexapla, and found they agreed with the Alexandrian MS. but not with the Vatican where it differed with the other. Hence he concluded that the Alexandrine MS. was taken from the edition of Origen. By comparing the quotations from scripture in the works of Athanasius and St Cyril (who were patriarchs of Alexandria at the time St Jerome says Hesychius's edition of the LXX was there used) with the Vatican MS. he found they agreed so well that he justly inferred that that MS. was taken from the edition of Hesychius.

This version was in use to the time of our blessed Saviour, and is that out of which most of the citations in the New Testament, from the Old, are taken. It was also the ordinary and canonical translation made use of by the Christian church in the earliest ages; and it still subsists in the churches both of the east and west.

Those who desire a more particular account of the Septuagint translations may consult Hody *de Bibliorum Textibus*, Prideaux's *Connections*, Owen's *Inquiry into the Septuagint Version*, Blair's *Lectures on the Canon*, and Michaelis's *Introduction to the New Testament*, last edition.

SEPTUAGINT Chronology, the chronology which is formed from the dates and periods of time mentioned in the Septuagint translation of the Old Testament. It reckons 1500 years more from the creation to Abraham than the Hebrew bible. Dr Kennicot, in the dissertation prefixed to his Hebrew bible, has shown it to be very probable that the chronology of the Hebrew scriptures, since the period just mentioned, was corrupted by the Jews, between the years 175 and 200, and that the chronology of the Septuagint is more agreeable to truth. It is a fact, that during the second and third centuries the Hebrew scriptures were almost entirely in the hands of the Jews, while the Septuagint was confined to the Christians. The Jews had therefore a very favourable opportunity for this corruption. The following is the reason which is given by oriental writers: It being a very ancient tradition, that the Messiah was to come in the sixth chiliad, because he was to come in the last days (founded on a mystical application of the six days creation), the contrivance was to shorten the age of the world from about 5500 to 3760; and thence to prove that Jesus could not be the Messiah. Dr Kennicot adds, that some Hebrew copies having the larger chro-

nology were extant till the time of Eusebius, and some till the year 700.

SEPTUM, in anatomy, an inclosure or partition; a term applied to several parts of the body, which serve to separate one part from another; as, *septum narium*, or partition between the nostrils, &c.

SEPULCHRAL, something belonging to sepulchres or tombs: thus a sepulchral column is a column erected over a tomb, with an inscription on its shaft; and sepulchral lamps, those said to have been found burning in the tombs of several martyrs and others. See *LAMP*.

SEPULCHRE, a tomb or place destined for the interment of the dead. This term is chiefly used in speaking of the burying-places of the ancients, those of the moderns being usually called *tombs*.

Sepulchres were held sacred and inviolable; and the care taken of them has always been held a religious duty, grounded on the fear of God, and the belief of the soul's immortality. Those who have searched or violated them have been thought odious by all nations, and were always severely punished.

The Egyptians called sepulchres *eternal houses*, in contradistinction to their ordinary houses or palaces, which they called *inns*, on account of their short stay in the one in comparison of their long abode in the other. See *TOMB*.

Regular Canons of St SEPULCHRE, a religious order, formerly instituted at Jerusalem, in honour of the holy sepulchre, or the tomb of Jesus Christ.

Many of these canons were brought from the Holy Land into Europe, particularly into France, by Louis the Younger; into Poland, by Jaxa, a Polish gentleman; and into Flanders, by the counts thereof; many also came into England. This order was, however, suppressed by pope Innocent VIII. who gave its revenues and effects to that of our Lady of Bethlehem: which also becoming extinct, they were bestowed on the knights of St John of Jerusalem. But the suppression did not take effect in Poland, where they still subsist, as also in several provinces of Germany. These canons follow the rule of St Augustine.

Knights of the Holy SEPULCHRE, a military order, established in Palestine about the year 1114.

The knights of this order in Flanders chose Philip II. king of Spain, for their master, in 1558, and afterwards his son; but the grand-master of the order of Malta prevailed on the last to resign; and when afterwards the duke of Nevers assumed the same quality in France, the same grand-master, by his interest and credit, procured a like renunciation of him, and a confirmation of the union of this order to that of Malta.

SEQUANI, a people anciently forming a part of Gallia Celtica, but annexed to Belgica by Augustus, separated from the Helvetii by mount Jura, with the Rhine on the east (Strabo), bordering on the Aedui, and Segustiano to the south, and Lingones to the west (Tacitus). Now Franche Comte.

SEQUESTRATION, in common law, is setting aside the thing in controversy from the possession of both the parties that contend for it. In which sense it is either voluntary, as when done by the consent of the parties; or necessary, as where it is done by the judge,

Sequestration. judge, of his own authority, whether the parties will or not.

SEQUESTRATION, in the civil law, is the act of the ordinary, disposing of the goods and chattels of one deceased, whose estate no man will meddle with.

A widow is also said to sequester, when she disclaims having any thing to do with the estate of her deceased husband.

Among the Romanists, in questions of marriage, where the wife complains of impotency in the husband, she is to be sequestered into a convent, or into the hands of matrons, till the process be determined.

SEQUESTRATION is also used for the act of gathering the fruits of a benefice void, to the use of the next incumbent.

Sometimes a benefice is kept under sequestration for many years, when it is of so small value, that no clergyman fit to serve the cure will be at the charge of taking it by institution; in which case the sequestration is committed either to the curate alone, or to the curate and church-wardens jointly. Sometimes the profits of a living in controversy, either by the consent of the parties, or the judge's authority, are sequestered and placed for safety in a third hand, till the suit is determined, a minister being appointed by the judge to serve the cure, and allowed a certain salary out of the profits. Sometimes the profits of a living are sequestered for neglect of duty, for dilapidations, or for satisfying the debts of the incumbent.

SEQUESTRATION, in chancery, is a commission usually directed to seven persons therein named, empowering them to seize the defendant's personal estate, and the profits of his real, and to detain them, subject to the order of the court. It issues on the return of the serjeant at arms, wherein it is certified, that the defendant had secreted himself.

Sequestrations were first introduced by Sir Nicholas Bacon, lord keeper in the reign of Queen Elizabeth; before which the court found some difficulty in enforcing its process and decrees; and they do not seem to be in the nature of process to bring in the defendant, but only intended to enforce the performance of the court's decree.

A sequestration is also made, in London, upon an action of debt; the course of proceeding in which case is this: The action being entered, the officer goes to the defendant's shop or warehouse, when no person is there, and takes a padlock, and hangs it on the door, uttering these words: "I do sequester this warehouse, and the goods and merchandize therein, of the defendant in this action, to the use of the plaintiff," &c. after which he sets on his seal, and makes a return of the sequestration in the comptex; and four days being passed after the return made, the plaintiff may, at the next court, have judgment to open the shop or warehouse, and to have the goods appraised by two freemen, who are to be sworn at the next court held for that comptex; and then the serjeant puts his hand to the bill of appraisement, and the court grants judgment thereon; but yet the defendant may put in bail before satisfaction, and by that means dissolve the sequestration; and after satisfaction, may put in bail to disprove the debt, &c.

In the time of the civil wars, sequestration was used

for a seizing of the estates of delinquents for the use of the commonwealth.

SEQUESTRATION, in Scots law. See LAW, p. 683.

SEQUIN, a gold coin, struck at Venice, and in several parts of the Grand Signior's dominions. In Turkey it is called *dahab*, or piece of gold, and according to Volney is in value about 6s. 3d. Sterling. It varies, however, considerably in its value in different countries. At Venice it is equal to about 9s. 2d. Sterling.

The Venetian sequins are in great request in Syria, from the fineness of their standard, and the practice they have of employing them for womens trinkets. The fashion of these trinkets does not require much art; the piece of gold is simply pierced, in order to suspend it by a chain, likewise of gold, which flows upon the breast. The more sequins that are attached to this chain, and the greater the number of these chains, the more is a woman thought to be ornamented. This is the favourite luxury, and the emulation of all ranks. Even the female peasants, for want of gold, wear pialtres or smaller pieces; but the women of a certain rank disdain silver; they will accept of nothing but sequins of Venice, or large Spanish pieces, and crusadoes. Some of them wear 200 or 300, as well lying flat, as strung one on another, and hung near the forehead, at the edge of the head-dress. It is a real load: but they do not think they can pay too dearly for the satisfaction of exhibiting this treasure at the public bath, before a crowd of rivals, to awaken whose jealousy constitutes their chief pleasure. The effect of this luxury on commerce, is the withdrawing considerable sums from circulation, which remain dead; besides, that when any of these pieces return into common use, having lost their weight by being pierced, it becomes necessary to weigh them. The practice of weighing money is general in Syria, Egypt, and all Turkey. No piece, however effaced, is refused there; the merchant draws out his scales and weighs it, as in the days of Abraham, when he purchased his sepulchre. In considerable payments, an agent of exchange is sent for, who counts paras by thousands, rejects a great many pieces of false money, and weighs all the sequins, either separately or together.

SERAGLIO, formed from the Persian word *seraw*, or Turkish word *farai*, which signifies a house, and is commonly used to express the house or palace of a prince. In this sense it is frequently used at Constantinople; the houses of foreign ambassadors are called *seraglios*. But it is commonly used by way of eminence for the palace of the grand signior at Constantinople, where he keeps his court, and where his concubines are lodged, and where the youth are trained up for the chief posts of the empire.

It is a triangle about three Italian miles round, wholly within the city, at the end of the promontory Chrysoceras, now called the *Seraglio Point*. The buildings run back to the top of the hill, and from thence are gardens that reach to the edge of the sea. It is inclosed with a very high and strong wall, upon which there are several watch towers: and it has many gates, some of which open towards the sea-side, and the rest into the city; but the chief gate is one of the latter, which is constantly guarded by a company of capoochees, or porters; and in the night it is well guarded towards

Sequestration
||
Seraglio.

the

Seraglio, the sea. The outward appearance is not very beautiful, the architecture being irregular, consisting of separate edifices in the form of pavilions and domes.

The ladies of the seraglio are a collection of beautiful young women, chiefly sent as presents from the provinces and the Greek islands, most of them the children of Christian parents. The brave prince Heraclius hath for some years past abolished the infamous tribute of children of both sexes, which Georgia formerly paid every year to the Porte. The number of women in the harem depends on the taste of the reigning monarch or sultan. Selim had 2000, Achmet had but 300, and the late sultan had nearly 1600. On their admission they are committed to the care of old ladies, taught sewing and embroidery, music, dancing, and other accomplishments, and furnished with the richest clothes and ornaments. They all sleep in separate beds, and between every fifth there is a preceptress. Their chief governess is called *Katon Kiaga*, or governess of the noble young ladies. There is not one servant among them, for they are obliged to wait on one another by rotation; the last that is entered serves her who preceded her and herself. These ladies are scarcely ever suffered to go abroad, except when the grand signior removes from one place to another, when a troop of black eunuchs conveys them to the boats, which are inclosed with lattices and linen curtains; and when they go by land they are put into close chariots, and signals are made at certain distances, to give notice that none approach the roads through which they march. The boats of the harem, which carry the grand signior's wives, are manned with 24 rowers, and have white covered tilts, shut alternately by Venetian blinds. Among the emperor's attendants are a number of mutes, who act and converse by signs with great quickness, and some dwarfs, who are exhibited for the diversion of his majesty.

When he permits the women to walk in the gardens of the seraglio, all people are ordered to retire, and on every side there is a guard of black eunuchs, with sabres in their hands, while others go their rounds in order to hinder any person from seeing them. If, unfortunately, any one is found in the garden, even thro' ignorance or inadvertence, he is undoubtedly killed, and his head brought to the feet of the grand signior, who gives a great reward to the guard for their vigilance. Sometimes the grand signior passes into the gardens to amuse himself when the women are there; and it is then that they make use of their utmost efforts, by dancing, singing, seducing gestures, and amorous blandishments, to ensnare the affections of the monarch. It is not permitted that the monarch should take a virgin to his bed, except during the solemn festivals, and on occasion of some extraordinary rejoicings, or the arrival of some good news. Upon such occasions, if the sultan chooses a new companion to his bed, he enters into the apartment of the women, who are ranged in files by the governesses, to whom he speaks, and intimates the person he likes best: the ceremony of the handkerchief, which the grand signior is said to throw to the girl that he elects, is an idle tale, without any foundation. As soon as the grand signior has chosen the girl that he has destined to be the partner of his bed, all the others follow her to the bath, washing and perfuming her, and dressing her superbly, conducting her singing,

dancing, and rejoicing, to the bed-chamber of the grand signior, who is generally, on such an occasion, already in bed. Scarcely has the new-elected favourite entered the chamber, introduced by the grand eunuch who is upon guard, than she kneels down, and when the sultan calls her, she creeps into bed to him at the foot of the bed, if the sultan does not order her, by especial grace, to approach by the side: after a certain time, upon a signal given by the sultan, the governess of the girls, with all her suite, enter the apartment, and take her back again, conducting her with the same ceremony to the women's apartments; and if by good fortune she becomes pregnant, and is delivered of a boy, she is called *afaki sultanes*; that is to say, sultanes-mother; for the first son she has the honour to be crowned, and she has the liberty of forming her court. Eunuchs are also assigned for her guard, and for her particular service. No other ladies, though delivered of boys, are either crowned or maintained with such costly distinction as the first; however, they have their service apart, and handsome appointments. After the death of the sultan, the mothers of the male children are shut up in the old seraglio, from whence they can never come out any more, unless any of their sons ascend the throne. Baron de Tott informs us, that the female slave who becomes the mother of a sultan, and lives long enough to see her son mount the throne, is the only woman who at that period alone acquires the distinction of *sultana-mother*; she is till then in the interior of her prison with her son. The title of *bache kadun*, principal woman, is the first dignity of the grand signior's harem; and she hath a larger allowance than those who have the title of second, third, and fourth woman, which are the four free women the Koran allows.

This is a description of the grand signior's seraglio: we shall now add an account of the seraglio or *harem*, as it is often called, of the emperor of Morocco, from the very interesting tour of Mr Lempriere. This gentleman being a surgeon by profession, was admitted into the harem to prescribe for some of the ladies who were indisposed, and was therefore enabled to give a particular account of this female prison, and, what is still more curious, of the manners and behaviour of its inhabitants.

The harem forms a part of the palace. The apartments, which are all on the ground floor, are square, very lofty, and four of them inclose a spacious square court, into which they open by means of large folding doors. In the centre of these courts, which are floored with blue and white chequered tiling, is a fountain, supplied by pipes from a large reservoir on the outside of the palace, which serves for the frequent ablutions recommended by the Mahometan religion, as well as for other purposes. The whole of the harem consists of about twelve of these square courts, communicating with each other by narrow passages, which afford a free access from one part of it to another, and of which all the women are allowed to avail themselves.

The apartments are ornamented on the outside with beautiful carved wood. In the inside most of the rooms are hung with rich damask of various colours; the floors are covered with beautiful carpets, and there are mattresses disposed at different distances, for the purposes of sitting and sleeping.

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Besides these, the apartments are furnished at each extremity with an elegant European mahogany bedstead, hung with damask, having on it several mattresses placed one over the other, which are covered with various coloured silks; but these beds are merely placed there to ornament the room. In all the apartments, without exception, the ceiling is wood, carved and painted. The principal ornaments in some were large and valuable looking-glasses, hung on different parts of the walls. In others, clocks and watches of different sizes, in glass cases, were disposed in the same manner.

The sultana Lalla Batoom and another favourite were indulged with a whole square to themselves; but the concubines were only each allowed a single room.

Each female had a separate daily allowance from the emperor, proportioned to the estimation in which they were held by him. The late emperor's allowance was very trifling: Lalla Douyaw, the favourite sultana, had very little more than half-a-crown English a-day, and the others less in proportion. It must be allowed, that the emperor made them occasional presents of money, dress, and trinkets; but this could never be sufficient to support the number of domestics and other expences they must incur. Their greatest dependence therefore was on the presents they received from those Europeans and Moors who visited the court, and who employed their influence in obtaining some particular favour from the emperor. This was the most successful mode that could be adopted. When Mr Lempriere was at Morocco, a Jew, desirous of obtaining a very advantageous favour from the emperor, for which he had been a long time unsuccessfully soliciting, sent to all the principal ladies of the harem presents of pearls to a very large amount; the consequence was, that they all went in a body to the emperor, and immediately obtained the wished-for concession.

The ladies separately furnish their own rooms, hire their own domestics, and, in fact, do what they please in the harem, but are not permitted to go out without an express order from the emperor, who very seldom grants them that favour, except when they are to be removed from one palace to another. In that case, a party of soldiers is dispatched a little distance before them, to disperse the male passengers in particular, and to prevent the possibility of their being seen. This previous step being taken, a piece of linen cloth is tied round the lower part of the face, and afterwards these miserable females cover themselves entirely with their haicks, and either mount mules, which they ride like men, or, what is more usual, are put into a square carriage or litter, constructed for this purpose, which by its lattice-work allows them to see without being seen. In this manner they set off, under the charge of a guard of black eunuchs. This journey, and sometimes a walk within the bounds of the palace, with which they are, however, seldom indulged, is the only exercise they are permitted to take.

The late emperor's harem consisted of between 60 and 100 females, besides their domestics and slaves, which were very numerous. Many of the concubines were Moorish women, who had been presented to the emperor, as the Moors consider it an honour to have their daughters in the harem; several were European slaves, who had either been made captives, or purchased by the emperor; and some were Negroes.

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In this group the Europeans, or their descendants, had by far the greatest claim to the character of handsome. There was one in particular, who was a native of Spain, and taken into the harem at about the same age as Lalla Douyaw, who was indeed a perfect beauty. Nor was this lady quite singular in that respect, for many others were almost equally handsome.

The eunuchs, who have the entire charge of the women, and who in fact live always among them, are the children of Negro slaves. They are generally either very short and fat, or else tall, deformed, and lame. Their voices have that particular tone which is observable in youths who are just arriving at manhood; and their persons altogether afford a disgusting image of weakness and effeminacy.

The same gentleman gives us a very curious account of the manners and ignorance of these immured females, from his own observation, when visiting the prince's harem. "Attended by an eunuch (says he), after passing the gate of the harem, which is always locked, and under the care of a guard of eunuchs, we entered a narrow and dark passage, which soon brought us to the court, into which the womens chambers open. We here saw numbers of both black and white women and children; some concubines, some slaves, and others hired domestics.

"Upon their observing the unusual figure of an European, the whole multitude in a body surrounded me, and expressed the utmost astonishment at my dress and appearance. Some stood motionless, with their hands lifted up, their eyes fixed, and their mouths open, in the usual attitude of wonder and surprise. Some burst into immoderate fits of laughter; while others again came up, and with uncommon attention eyed me from head to foot. The parts of my dress which seemed most to attract their notice were my buckles, buttons, and stockings; for neither men nor women in this country wear any thing of the kind. With respect to the club of my hair, they seemed utterly at a loss in what view to consider it; but the powder which I wore they conceived to be employed for the purpose of destroying vermin. Most of the children, when they saw me, ran away in the most perfect consternation; and on the whole, I appeared as singular an animal, and I dare say had the honour of exciting as much curiosity and attention, as a lion or a man-tiger just imported from abroad, and introduced into a country town in England on a market-day. Every time I visited the harem, I was surrounded and laughed at by this curious mob, who, on my entering the gate, followed me close to the very chamber to which I was proceeding, and on my return universally escorted me out.

"The greatest part of the women were uncommonly fat and unwieldy; had black and full eyes, round faces, with small noses. They were of different complexions; some very fair, some fallow, and others again perfect Negroes.

"One of my new patients being ready to receive me, I was desired to walk into her room; where, to my great surprise, I saw nothing but a curtain drawn quite across the apartment, similar to that of a theatre which separates the stage from the audience. A female domestic brought a very low stool, placed it near the curtain, and told me I was to sit down there, and feel her mistress's pulse.

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Seraglio.

"The lady, who had by this time summoned up courage to speak, introduced her hand from the bottom of the curtain, and desired me to inform her of all her complaints, which she conceived I might perfectly do by merely feeling the pulse. It was in vain to ask her where her pain was seated, whether in her stomach, head, or back; the only answer I could procure was a request to feel the pulse of the other hand, and then point out the seat of the disease, and the nature of the pain.

"Having neither satisfied my curiosity by exhibiting her face, nor made me acquainted with the nature of her complaint, I was under the necessity of informing her in positive terms, that to understand the disease, it was absolutely necessary to see the tongue as well as to feel the pulse; and that without it I could do nothing for her. My eloquence, or rather that of my Jewish interpreter, was, however, for a long time exerted in vain; and I am persuaded she would have dismissed me without any further inquiry, had not her invention supplied her with a happy expedient to remove her embarrassment. She contrived at last to cut a hole through the curtain, through which she extruded her tongue, and thus complied with my injunction as far as it was necessary in a medical view, but most effectually disappointed my curiosity.

"I was afterwards ordered to look at another of the prince's wives, who was affected with a serophulous swelling in her neck. This lady was, in the same manner as the other, at first excluded from my sight; but as she was obliged to show me her complaint, I had an opportunity of seeing her face, and observed it to be very handsome."

It is curious to observe the strange and childish notions of persons who have been totally secluded from the world. All the ladies of the harem expected that our author should have instantly discovered their complaints upon feeling the pulse, and that he could cure every disease instantaneously. He found them proud and vain of their persons, and extremely ignorant. "Among many ridiculous questions, they asked my interpreter (says Mr Lempriere) if I could read and write; upon being answered in the affirmative, they expressed the utmost surprise and admiration at the abilities of the Christians. There was not one among them who could do either; these rudiments of learning are indeed only the lot of a few of their men, who on that account are named *Talbs*, or explainers of the Mahometan law."

It is melancholy to reflect on the situation of these unfortunate women. Being considered as the mere instruments of pleasure, no attention is paid to the improvement of their minds. They have no employment to occupy their time. Their needle-work is performed by Jewesses; their food is dressed, and their chambers taken care of, by slaves and domestics. They have no amusement but a rude and barbarous kind of melancholy music, without melody, variety, or taste; and conversation with one another, which must indeed be very confined, uniform, and inanimate, as they never see a new object. Excluded from the enjoyment of fresh air and exercise, so necessary for the support of health and life; deprived of all society but that of their fellow sufferers, a society to which most of them would prefer solitude itself; they are only to be considered as

the most abject of slaves—slaves to the vices and caprice of a licentious tyrant, who exacts even from his wives themselves a degree of submission and respect which borders upon idolatry, and which God and nature never meant should be paid to a mortal.

SERAI, a building on the high-road, or in large cities in India, erected for the accommodation of travellers.

SERAPH, or SERAPHIM, a spirit of the highest rank in the hierarchy of angels; who are thus called from their being supposed to be most inflamed with divine love, by their nearer and more immediate attendance at the throne of God, and to communicate their fervour to the remoter and inferior orders. See ANGEL.

SERAPHIC, burning or inflamed with love or zeal, like a seraphim: thus St Bonaventure is called the *seraphic doctor*, from his abundant zeal and fervour.

SERAPIAS, in botany: A genus of plants belonging to the order of diandria, and to the class of gynandria; and in the natural system arranged under the 7th order, *Orchideæ*. The nectarium is egg-shaped and gibbous, with an egg-shaped lip. The species, according to Linnæus, are ten. 1. *Latifolia*; 2. *Longifolia*; 3. *Grandiflora*, or *ensifolia*; 4. *Lancifolia*; 5. *Rubra*; 6. *Lingua*; 7. *Cordigera*; 8. *Capensis*; 9. *Erecta*; 10. *Falcata*. The three first are natives of Britain. 1. The *Latifolia*, or broad-leaved helleborine, is distinguished by fibrous bulbs, by ovate stem-clasping leaves, and pendulous flowers. The stalk is erect, about a cubit high, and furnished with six or eight nervous oval leaves; the spike is about six inches long; the three upper petals are of a green colour, and of an oval acute form; the lateral ones are a little shorter, and of a white colour, with a little tinge of green. 2. The *Palustris*, or marsh helleborine, grows in rough boggy pastures and marshes, and flowers in July. It is distinguished by fibrous bulbs, sword-shaped sessile leaves, pendulous flowers; and the lip of the nectarium is obtuse, somewhat serrated, and longer than the petals. The flowers grow to the number of 15 or 20 in a loose spike. The three exterior petals are green mixed with red; the lateral ones are white with a red blush; and the nectarium is marked with red lines and yellow tuberculous spots. 3. The *Grandiflora*, or white-flowered helleborine, grows in woods, and flowers in June. Its characteristics are, fibrous bulbs, sword-shaped leaves, erect flowers; and the lip of the nectarium is obtuse and shorter than the petals. The flowers are large and erect, and consisting of six or eight in a thin spike; the petals are all white, and connive together; the lip of the nectarium is inclosed within the petals, is white and streaked with three yellow prominent lines.

SERAPION, a physician of Alexandria. He and Philinus of the isle of Cos were both scholars of Herophilus, and were founders of the empiric sect; which happened about 287 B. C.

SERAPIS, in mythology, an Egyptian deity, who was worshipped under various names and attributes, as the tutelary god of Egypt in general, and as the patron of several of their principal cities. Tacitus informs us, that he was worshipped as a kind of universal deity that represented Esculapius, Osiris, Jupiter, and Pluto; and he was sometimes taken for Jupiter Ammon, the Sun, and Neptune: and the honours that were rendered to him

Serai
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Serapis.

Serapis
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* Tac. Hist.
1. iv. cap. 3.
Plut. de Isi-
de et Osiride
Clem. Alex.
in Protrep.

him at Alexandria were more solemn and extraordinary than those of any other place.

Plutarch and Clemens of Alexandria, as well as Tacitus*, inform us, that while the first Ptolemy was employed in fortifying Alexandria with walls, adorning it with temples and stately buildings, there appeared to him in his sleep a young man of extraordinary beauty, of a stature more than human, admonishing him to dispatch into Pontus some of his most trusty friends to bring from thence his statue: he assured him, that the city and kingdom which possessed it should prove happy, glorious, and powerful. The young man having thus spoke, disappeared, mounting up into heaven in a blaze of fire.

Ptolemy discovered his vision to the priests; but finding them ignorant of Pontus, he had recourse to an Athenian, who informed him that near Sinope, a city of Pontus, there was a temple much resorted to by the natives, which was consecrated to Pluto, where he had a statue, near which stood that of a woman. Ptolemy, neglecting the injunctions of the apparition, it again appeared to him in a menacing attitude; and the king immediately dispatched ambassadors to the Serapian monarch, loaded with presents. The king of Sinope consented; but his subjects opposed the removal of the statue. The god, however, of his own accord, as we are informed, conveyed himself to the ambassador's ship, and in three days landed in Alexandria. The statue of Serapis was erected in one of the suburbs of the city, where a magnificent temple was afterwards reared.

The statue of Serapis, according to Macrobius, was of a human form, with a basket or bushel on his head, signifying plenty; his right hand leaned on the head of a serpent, whose body was wound round a figure with three heads, of a dog, a lion, and a wolf; in his left hand he held a measure of a cubit length, as it were to take the height of the waters of the Nile. The figure of Serapis is found on many ancient medals.

The famous temple of Serapis at Alexandria was destroyed by order of Theodosius; and the celebrated statue of this deity was broken in pieces, and its limbs carried first in triumph by the Christians through the city, and then thrown into a fierce fire, kindled for that purpose in the amphitheatre. As the Egyptians ascribed the overflowing of the Nile, to which was owing the fertility of their country, to the benign influence of their god Serapis, they concluded, that now he was destroyed, the river would no longer overflow, and that a general famine would ensue; but when they observed, on the contrary, that the Nile swelled to a greater height than had been known in the memory of man, and thereby produced an immense plenty of all kinds of provisions, many of the pagans renouncing the worship of idols, adored the God of the Christians.

SERENA GUTTA, the same as *amaurosis*. See MEDICINE, n° 360.

SERENADE, a kind of concert given in the night by a lover to his mistress, under her window. These sometimes only consist of instrumental music, but at other times voices are added: the music and songs composed for these occasions are also called *serenades*.

SERENE, a title of honour given to several princes and to the principal magistrates of republics. The king of Britain, the republic and doge of Venice, and the children of the king of Spain, are called *most serene*;

and when the pope or the sacred college write to the emperor, to kings, or to the doge, they give them no other title. In like manner, the emperor gives no other title to any king, except to the king of France.

SERENUS (Sammonicus), a celebrated physician in the reigns of the emperor Severus and Caracalla, in and about the year 200. He wrote several treatises on history and the works of nature; but there is only one of them extant, which is a very indifferent poem on the Remedies of Diseases. He was murdered at a festival by the order of Caracalla. He had a library that contained 62,000 volumes, which Quintus Serenus Sammonicus his son gave to Gordian the Younger, to whom he was preceptor.

SERES (Ptolemy); a people of the Farther Asia; bounded on the west by Scythia extra Imaum; on the north and east, by Terra Incognita; and on the south, by India extra Gangem. According to these limits, their country answers nearly to Cathay or North China. Other authors vary greatly in placing them, though the generality agree in placing them far to the east. Mela places them between the Indi and Scythæ; and perhaps beyond the Indi, if we distinguish the Sinae from them. The ancients commend them for their cotton manufactures, different from the produce of the bombyces or silk-worms, called *seres* by the Greeks; whence *serica* "silk."

SERGE, a woollen quilted stuff, manufactured on a loom with four treddles, after the manner of rateens, and other stuffs that have the whale. The goodness of serges is known by the quilting, as that of cloths by the spinning. Of serges there are various kinds, denominated either from the different qualities thereof, or from the places where they are wrought. The most considerable is the London serge, now highly valued abroad, particularly in France, where a manufacture is carried on with considerable success, under the title of *serge façon de Londres*.

The method of making the London serge we shall now describe: For wool, the longest is chosen for the warp, and the shortest for the woof. Before either kind is used, it is first scoured, by putting it in a copper of liquor, somewhat more than lukewarm, composed of three parts of fair water and one of urine. After having stayed long enough therein for the liquor to dissolve, and take off the grease, &c. it is stirred briskly about with a wooden peel; taken out of the liquor, drained, and washed in a running water, dried in the shade, beaten with sticks on a wooden rack to drive out the coarser dust and filth, and then picked clean with the hands. Thus far prepared, it is greased with oil of olives, and the longest part, destined for the warp, is combed with large combs, heated in a little furnace for the purpose. To clear off the oil again, the wool is put in a liquor composed of hot water, with soap melted therein: whence being taken out, wrung, and dried, it is spun on the wheel.

As to the shorter wool, intended for the woof, it is only carded on the knee with small cards, and then spun on the wheel, without being scoured of its oil. It must be remarked, that the thread for the warp is always to be spun much finer, and better twisted than that of the woof. The wool both for the warp and the woof being spun, and the thread divided into skains, that of the woof is put on spools (unless it have been

Serenus
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Serge.

Serge,
Sergeant.

(spun upon them) fit for the cavity or eye of the shuttle; and that for the warp is wound on a kind of wooden bobbins to fit it for warping. When warped, it is stiffened with a kind of size, whereof that made of the shreds of parchment is held the best; and when dry is put on the loom.

When mounted on the loom, the workman raising and lowering the threads (which are passed through a reed), by means of four treddles placed underneath the loom, which he makes to act transversely, equally, and alternately, one after another, with his feet, in proportion as the threads are raised and lowered, throws the shuttle across from one side to the other; and each time that the shuttle is thrown, and the thread of the woof is crossed between those of the warp, strikes it with the frame to which the reed is fastened, through those teeth the threads of the warp pass; and this stroke he repeats twice or thrice, or even more, till he judges the crossing of the serge sufficiently close: thus he proceeds till the warp is all filled with woof.

The serge now taken off the loom is carried to the fuller, who scours it in the trough of his mill with a kind of fat earth, called *fuller's earth*, first purged of all stones and filth. After three or four hours scouring, the fuller's earth is washed out in fair water, brought by little and little into the trough, out of which it is taken when all the earth is cleared; then, with a kind of iron pincers or plyers, they pull off all the knots, ends, straws, &c. sticking out on the surface on either side; and then returning it into the fulling trough, where it is worked with water somewhat more than lukewarm, with soap dissolved therein for near two hours: it is then washed out till such time as the water becomes quite clear, and there be no signs of soap left; then it is taken out of the trough, the knots, &c. again pulled off, and then put on the tenter to dry, taking care as fast as it dries to stretch it out both in length and breadth till it be brought to its just dimensions. When well dried, it is taken off the tenter, and dyed, shorn, and pressed.

SERGEANT, or **SERJEANT at Law**, or of the *Coif*, is the highest degree taken at the common law, as that of Doctor is of the civil law; and as these are supposed to be the most learned and experienced in the practice of the courts, there is one court appointed for them to plead in by themselves, which is the common pleas, where the common law of England is most strictly observed: but they are not restricted from pleading in any other court, where the judges, who cannot have that honour till they have taken the degree of serjeant at law, call them *brothers*.

SERGEANT at Arms, or *Mace*, an officer appointed to attend the person of the king; to arrest traitors, and such persons of quality as offend; and to attend the lord high steward, when sitting in judgment on a traitor.

Of these, by statute 13 Rich. II. cap. 6. there are not to be above 30 in the realm. There are now nine at court at L. 100 *per annum* salary each; they are called the *king's sergeants at arms*, to distinguish them from others: they are created with great ceremony, the person kneeling before the king, his majesty lays the mace on his right shoulder, and says, *Rise up, serjeant at arms, and esquire for ever*. They have, besides, a patent for the office, which they hold for life.

They have their attendance in the presence-chamber,

where the band of gentlemen-pensioners wait; and, receiving the king at the door, they carry the maces before him to the chapel door, whilst the band of pensioners stand foremost, and make a lane for the king, as they also do when the king goes to the house of lords.

There are four other sergeants at arms, created in the same manner; one, who attends the lord chancellor; a second, the lord treasurer; a third, the speaker of the house of commons; and a fourth, the lord mayor of London on solemn occasions.

They have a considerable share of the fees of honour, and travelling charges allowed them when in waiting, *viz.* five shillings per day when the court is within ten miles of London, and ten shillings when twenty miles from London. The places are in the lord chamberlain's gift.

There are also sergeants of the mace of an inferior kind, who attend the mayor or other head officer of a corporation.

Common SERGEANT, an officer in the city of London, who attends the lord mayor and court of aldermen on court days, and is in council with them on all occasions, within and without the precincts or liberties of the city. He is to take care of orphans estates, either by taking account of them, or to sign their indentures, before their passing the lord mayor and court of aldermen: and he was likewise to let and manage the orphans estates, according to his judgment to their best advantage. See **RECORDE**.

SERGEANT, in war, is an uncommissioned officer in a company of foot or troop of dragoons, armed with an halbert, and appointed to see discipline observed, to teach the soldiers the exercise of their arms, to order, straiten, and form their ranks, files, &c. He receives the orders from the adjutant, which he communicates to his officers. Each company generally has two sergeants.

SERGEANTY (*Serjeantia*), signifies, in law, a service that cannot be due by a tenant to any lord but the king; and this is either *grand serjeanty*, or *petit*. The first is a tenure by which the one holds his lands of the king by such services as he ought to do in person to the king at his coronation; and may also concern matters military, or services of honour in peace; as to be the king's butler, carver, &c. *Petit serjeanty* is where a man holds lands of the king to furnish him yearly with some small thing towards his wars; and in effect payable as rent. Though all tenures are turned into *soccage* by the 12 Car. II. cap. 24. yet the honorary services of grand serjeanty still remain, being therein excepted. See **KNIGHT-Service**.

SERIES, in general, denotes a continual succession of things in the same order, and having the same relation or connection with each other: in this sense we say, a series of emperors, kings, bishops, &c.

In natural history, a series is used for an order or subdivision of some class of natural bodies; comprehending all such as are distinguished from the other bodies of that class, by certain characters which they possess in common, and which the rest of the bodies of that class have not.

SERIES, in arithmetic and algebra, a rank or number of terms in succession, increasing or diminishing in some certain ratio or proportion. There are several kinds of series; as *arithmetical*, *geometrical*, *infinite*, &c. The

Sergeant
Series.

Series.

Various kinds of.

The

Series. The two first of these are, however, more generally known or distinguished by the names of *arithmetical* and *geometrical progression*. These serieses have already been explained and illustrated in the article ALGEBRA, particularly the two first: it therefore only remains, in this place, to add a little to what has already been done to the last of these; namely,

INFINITE SERIES.

3 Infinite series. Is formed by dividing the numerator of a fraction by its denominator, that denominator being a compound quantity; or by extracting the root of a surd.

4 Converging and diverging series. An infinite series is either *converging* or *diverging*. A converging series is that in which the magnitude of the several terms gradually diminish; and a diverging series is that in which the successive terms increase in magnitude.

5 Law of an infinite series. The *law* of an infinite series is the order in which the terms are observed to proceed. This law is often easily discovered from a few of the first terms of the series; and then the series may be continued as far as may be thought necessary, without any farther division or evolution.

An infinite series, as has already been observed, is obtained by division or evolution; but as that method is very tedious, various other methods have been proposed for performing the same in a more easy manner; as, by assuming a series with unknown coefficients, by the binomial theorem, &c.

I. Of the Method of Series by Division and Evolution.

RULE.

6 Method of converting a fractional quantity into an infinite series, by division. LET the division or evolution of the given fraction, which is to be converted into an infinite series, be performed as in Chapters I. and IV. of our article ALGEBRA, and the required series will be obtained.

EXAMPLES.

1. Convert the fraction $\frac{1}{1-x}$ into an infinite series?

$$1-x)1 \quad (1+x+x^2+x^3+x^4, \&c.$$

$$\underline{1-x}$$

$$x$$

$$\underline{x-x^2}$$

$$x^2$$

$$\underline{x^2-x^3}$$

$$x^3$$

$$\underline{x^3-x^4}$$

$$x^4$$

$$\underline{x^4-x^5}$$

$$x^5$$

Hence the fraction $\frac{1}{1-x} = 1+x+x^2+x^3+x^4, \&c.$

From inspection of the terms of this series, it appears that each term is formed by multiplying the preceding term by x ; and hence it may be continued as far as may be thought necessary without continuing the division.

2. Let the fraction $\frac{ay}{1+x}$ be converted into an infinite series? Series.

$$1+x)ay \quad (ay-ayx+ayx^2-ayx^3+ayx^4, \&c.$$

$$\underline{ay+ayx}$$

$$-ayx$$

$$\underline{-ayx-ayx^2}$$

$$ayx^2$$

$$\underline{ayx^2+ayx^3}$$

$$-ayx^3$$

$$\underline{-ayx^3-ayx^4}$$

$$ayx^4$$

$$\underline{ayx^4+ayx^5}$$

$$-ayx^5$$

Hence $\frac{ay}{1+x} = ay \times 1 - x + x^2 - x^3 + x^4, \&c.$

and the law of the series is obvious.

3. Reduce the fraction $\frac{m^2+x^2}{m+x}$ into an infinite series?

$$m+x)m^2+x^2 \quad (m-x+\frac{2x^2}{m}-\frac{2x^3}{m^2}+\frac{2x^4}{m^3}, \&c.$$

$$\underline{-mx+x^2}$$

$$\underline{-mx-x^2}$$

$$2x^2$$

$$\underline{2x^2+\frac{2x^3}{m}}$$

$$\frac{2x^3}{m}$$

$$\underline{\frac{2x^3}{m}}$$

$$\frac{2x^4}{m^2}$$

$$\underline{\frac{2x^4}{m^2}}$$

$$\frac{2x^4}{m^2}, \&c.$$

Hence $\frac{m^2+x^2}{m+x} = m-x+\frac{2x^2}{m}-\frac{2x^3}{m^2}+\frac{2x^4}{m^3}, \&c.$ and

the law of the series is evident.

4. Convert the quantity $\frac{a^2}{a^2+2ay+y^2}$ into an infinite series?

$$a^2+2ay+y^2)a^2 \quad (1-\frac{2y}{a}+\frac{3y^2}{a^2}-\frac{4y^3}{a^3}, \&c.$$

$$\underline{a^2+2ay+y^2}$$

$$-2ay-y^2$$

$$\underline{-2ay-4y^2-\frac{2y^3}{a}}$$

$$3y^2+\frac{2y^3}{a}$$

$$\underline{3y^2+\frac{6y^3}{a}+\frac{3y^4}{a^2}}$$

$$-\frac{4y^3}{a}-\frac{3y^4}{a^2}$$

Whence

Series. Whence $\frac{a^2}{a^2+2ay+y^2} = 1 - \frac{2y}{a} + \frac{3y^2}{a^2} - \frac{4y^3}{a^3}$, &c.; and each term is found by multiplying the preceding by $\frac{y}{a}$ and increasing the coefficient by unity.

7 And evolu-
tion. 5. Let $\sqrt{a^2+x^2}$ be converted into an infinite series?

$$\begin{aligned} & \frac{a^2+x^2}{a^2} = a + \frac{x^2}{2a} - \frac{x^4}{8a^3} + \frac{x^6}{16a^5} - \frac{x^8}{128a^7} \\ & \frac{2a + \frac{x^2}{2a}}{2a} = \frac{x^2}{4a^2} + \frac{x^4}{4a^3} \\ & \frac{2a + \frac{x^2}{2a} - \frac{x^4}{8a^3}}{2a} = \frac{x^4}{4a^2} - \frac{x^6}{8a^4} + \frac{x^8}{64a^6} \\ & \frac{2a + \frac{x^2}{2a} - \frac{x^4}{8a^3} + \frac{x^6}{16a^5}}{2a} = \frac{x^6}{8a^4} + \frac{x^8}{16a^6} - \frac{x^{10}}{64a^8} + \frac{x^{12}}{256a^{10}} \\ & \frac{x^6}{8a^4} + \frac{x^8}{16a^6} - \frac{x^{10}}{64a^8} + \frac{x^{12}}{256a^{10}} \\ & - \frac{5x^8}{64a^6} + \frac{x^{10}}{64a^8} - \frac{x^{12}}{256a^{10}} \end{aligned}$$

Hence the square root of $a^2+x^2 = a + \frac{x^2}{2a} - \frac{x^4}{8a^3} + \frac{x^6}{16a^5} - \frac{x^8}{128a^7}$, &c.

In continuing the operation, those terms may be neglected whose dimensions exceed those of the last term to which the root is to be continued.

II. Of the Method of Series by assuming a Series with unknown Coefficients.

8 By means
of an assum-
ed series; RULE. Assume a series with unknown coefficients to represent that required. Let this series be multiplied or involved, according to the nature of the question; and the quantities of the same dimension being put equal to each other, the coefficients will be determined; and hence the required series will be known.

EXAMPLES. I. Let $\frac{1}{a-x}$ be converted into an infinite series? Assume $\frac{1}{a-x} = A + Bx + Cx^2 + Dx^3 + Ex^4$, &c.

Then this assumed series, multiplied by $a-x$, gives $1 = aA + aBx + aCx^2 + aDx^3 + aEx^4$, &c.

Now, by equating the coefficients of the same powers of x , we have $aA = 1$, $aB - A = 0$, $aC - B = 0$, $aD - C = 0$, $aE - D = 0$, &c. Hence $A = \frac{1}{a}$, $B = \frac{A}{a} = \frac{1}{a^2}$, $C = \frac{B}{a} = \frac{1}{a^3}$, $D = \frac{C}{a} = \frac{1}{a^4}$, $E = \frac{D}{a} = \frac{1}{a^5}$, &c.; whence, by substitution, we have $\frac{1}{a-x} = \frac{1}{a} + \frac{x}{a^2} + \frac{x^2}{a^3} + \frac{x^3}{a^4} + \frac{x^4}{a^5}$, &c.

2. Convert the quantity $\frac{c^2}{c^2+2cy-y^2}$ into an infinite series?

Let the assumed series be $A + By + Cy^2 + Dy^3$, &c. which multiplied by $c^2 + 2cy - y^2$, gives $c^2 = c^2A + c^2By + c^2Cy^2 + c^2Dy^3$, &c. $+ 2cAy + 2cBy^2 + 2cCy^3 - Ay^2 - By^3$.

Now, by equating the coefficients of the homologous terms, we have $c^2 = c^2A$, $c^2B + 2cA = 0$, $c^2C + 2cB - A = 0$, $c^2D + 2cC - B = 0$, &c.; whence $A = 1$, $B = -\frac{2A}{c} = -\frac{2}{c}$, $C = \frac{A - 2cB}{c^2} = \frac{1 + 4}{c^2} = \frac{5}{c^2}$, $D = \frac{B - 2cC}{c^2} = \frac{-2 - 10}{c^3} = -\frac{12}{c^3}$, &c.; whence $\frac{c^2}{c^2+2cy-y^2} = 1 - \frac{2y}{c} + \frac{5y^2}{c^2} - \frac{12y^3}{c^3}$, &c.

3. Required the square root of $a^2 - x^2$?

Let $a^2 - x^2 = A + Bx^2 + Cx^4 + Dx^6$, &c. which being squared gives $a^2 - x^2 = A^2 + 2ABx^2 + B^2x^4 + 2ADx^6 + 2ACx^4 + 2BCx^6$.

Hence $A^2 = a^2$, $2AB + 1 = 0$, $B^2 + 2AC = 0$, $2AD + 2BC = 0$, &c. Then $A = a$, $B = -\frac{1}{2a}$, $C = -\frac{B^2}{2A} = \frac{1}{8a^3}$, $D = -\frac{BC}{A} = \frac{1}{16a^5}$, &c.; whence $a^2 - x^2 = a^2 - \frac{x^2}{2a} + \frac{x^4}{8a^3} - \frac{x^6}{16a^5}$, &c.

III. Of the Method of reducing a fractional Quantity into an Infinite Series by the Binomial Theorem.

As this method has already been illustrated in the article ALGEBRA, we shall therefore briefly state the theorem, and add a few examples.

Binomial Theorem.

$$\begin{aligned} (a+b)^{\frac{m}{n}} &= a^{\frac{m}{n}} + \frac{m}{n} a^{\frac{m-n}{n}} b + \frac{m}{n} \times \frac{m-n}{2n} a^{\frac{m-2n}{n}} b^2 \\ &+ \frac{m}{n} \times \frac{m-n}{2n} \times \frac{m-2n}{3n} a^{\frac{m-3n}{n}} b^3, \&c. \\ \text{Or } a^{\frac{m}{n}} \times \left(1 + \frac{b}{a}\right)^{\frac{m}{n}} &= a^{\frac{m}{n}} \times \left(1 + \frac{m}{n} \times \frac{b}{a} + \frac{m}{n} \times \frac{m-n}{2n} \times \frac{b^2}{a^2}\right. \\ &\left. + \frac{m}{n} \times \frac{m-n}{2n} \times \frac{m-2n}{3n} \times \frac{b^3}{a^3}, \&c.\right) \end{aligned}$$

EXAMPLES.

1. Let $\frac{a}{ax-x^2}^{\frac{1}{2}}$ be converted into an infinite series? Now $\frac{a}{ax-x^2}^{\frac{1}{2}} = a \times \frac{1}{ax-x^2}^{\frac{1}{2}} = \frac{a}{ax} \times \left(1 - \frac{x}{a}\right)^{-\frac{1}{2}}$. And this last expression, being compared with the general theorem, gives $\frac{b}{a} = \frac{x}{a}$, $m = -1$, $n = 2$. Hence, by substitution, we have $\frac{a}{ax-x^2}^{\frac{1}{2}} = \frac{a}{ax} \times \left(1 - \frac{1}{2} \times \frac{x}{a} + \frac{1}{8} \times \frac{x^2}{a^2} - \frac{1}{16} \times \frac{x^3}{a^3} + \frac{5}{128} \times \frac{x^4}{a^4} - \frac{7}{2048} \times \frac{x^5}{a^5} + \frac{7}{65536} \times \frac{x^6}{a^6} - \frac{77}{524288} \times \frac{x^7}{a^7} + \frac{77}{16777216} \times \frac{x^8}{a^8} - \frac{77}{524288} \times \frac{x^9}{a^9} + \frac{77}{16777216} \times \frac{x^{10}}{a^{10}} - \frac{77}{524288} \times \frac{x^{11}}{a^{11}} + \frac{77}{16777216} \times \frac{x^{12}}{a^{12}} - \frac{77}{524288} \times \frac{x^{13}}{a^{13}} + \frac{77}{16777216} \times \frac{x^{14}}{a^{14}} - \frac{77}{524288} \times \frac{x^{15}}{a^{15}} + \frac{77}{16777216} \times \frac{x^{16}}{a^{16}} - \frac{77}{524288} \times \frac{x^{17}}{a^{17}} + \frac{77}{16777216} \times \frac{x^{18}}{a^{18}} - \frac{77}{524288} \times \frac{x^{19}}{a^{19}} + \frac{77}{16777216} \times \frac{x^{20}}{a^{20}} - \frac{77}{524288} \times \frac{x^{21}}{a^{21}} + \frac{77}{16777216} \times \frac{x^{22}}{a^{22}} - \frac{77}{524288} \times \frac{x^{23}}{a^{23}} + \frac{77}{16777216} \times \frac{x^{24}}{a^{24}} - \frac{77}{524288} \times \frac{x^{25}}{a^{25}} + \frac{77}{16777216} \times \frac{x^{26}}{a^{26}} - \frac{77}{524288} \times \frac{x^{27}}{a^{27}} + \frac{77}{16777216} \times \frac{x^{28}}{a^{28}} - \frac{77}{524288} \times \frac{x^{29}}{a^{29}} + \frac{77}{16777216} \times \frac{x^{30}}{a^{30}} - \frac{77}{524288} \times \frac{x^{31}}{a^{31}} + \frac{77}{16777216} \times \frac{x^{32}}{a^{32}} - \frac{77}{524288} \times \frac{x^{33}}{a^{33}} + \frac{77}{16777216} \times \frac{x^{34}}{a^{34}} - \frac{77}{524288} \times \frac{x^{35}}{a^{35}} + \frac{77}{16777216} \times \frac{x^{36}}{a^{36}} - \frac{77}{524288} \times \frac{x^{37}}{a^{37}} + \frac{77}{16777216} \times \frac{x^{38}}{a^{38}} - \frac{77}{524288} \times \frac{x^{39}}{a^{39}} + \frac{77}{16777216} \times \frac{x^{40}}{a^{40}} - \frac{77}{524288} \times \frac{x^{41}}{a^{41}} + \frac{77}{16777216} \times \frac{x^{42}}{a^{42}} - \frac{77}{524288} \times \frac{x^{43}}{a^{43}} + \frac{77}{16777216} \times \frac{x^{44}}{a^{44}} - \frac{77}{524288} \times \frac{x^{45}}{a^{45}} + \frac{77}{16777216} \times \frac{x^{46}}{a^{46}} - \frac{77}{524288} \times \frac{x^{47}}{a^{47}} + \frac{77}{16777216} \times \frac{x^{48}}{a^{48}} - \frac{77}{524288} \times \frac{x^{49}}{a^{49}} + \frac{77}{16777216} \times \frac{x^{50}}{a^{50}} - \frac{77}{524288} \times \frac{x^{51}}{a^{51}} + \frac{77}{16777216} \times \frac{x^{52}}{a^{52}} - \frac{77}{524288} \times \frac{x^{53}}{a^{53}} + \frac{77}{16777216} \times \frac{x^{54}}{a^{54}} - \frac{77}{524288} \times \frac{x^{55}}{a^{55}} + \frac{77}{16777216} \times \frac{x^{56}}{a^{56}} - \frac{77}{524288} \times \frac{x^{57}}{a^{57}} + \frac{77}{16777216} \times \frac{x^{58}}{a^{58}} - \frac{77}{524288} \times \frac{x^{59}}{a^{59}} + \frac{77}{16777216} \times \frac{x^{60}}{a^{60}} - \frac{77}{524288} \times \frac{x^{61}}{a^{61}} + \frac{77}{16777216} \times \frac{x^{62}}{a^{62}} - \frac{77}{524288} \times \frac{x^{63}}{a^{63}} + \frac{77}{16777216} \times \frac{x^{64}}{a^{64}} - \frac{77}{524288} \times \frac{x^{65}}{a^{65}} + \frac{77}{16777216} \times \frac{x^{66}}{a^{66}} - \frac{77}{524288} \times \frac{x^{67}}{a^{67}} + \frac{77}{16777216} \times \frac{x^{68}}{a^{68}} - \frac{77}{524288} \times \frac{x^{69}}{a^{69}} + \frac{77}{16777216} \times \frac{x^{70}}{a^{70}} - \frac{77}{524288} \times \frac{x^{71}}{a^{71}} + \frac{77}{16777216} \times \frac{x^{72}}{a^{72}} - \frac{77}{524288} \times \frac{x^{73}}{a^{73}} + \frac{77}{16777216} \times \frac{x^{74}}{a^{74}} - \frac{77}{524288} \times \frac{x^{75}}{a^{75}} + \frac{77}{16777216} \times \frac{x^{76}}{a^{76}} - \frac{77}{524288} \times \frac{x^{77}}{a^{77}} + \frac{77}{16777216} \times \frac{x^{78}}{a^{78}} - \frac{77}{524288} \times \frac{x^{79}}{a^{79}} + \frac{77}{16777216} \times \frac{x^{80}}{a^{80}} - \frac{77}{524288} \times \frac{x^{81}}{a^{81}} + \frac{77}{16777216} \times \frac{x^{82}}{a^{82}} - \frac{77}{524288} \times \frac{x^{83}}{a^{83}} + \frac{77}{16777216} \times \frac{x^{84}}{a^{84}} - \frac{77}{524288} \times \frac{x^{85}}{a^{85}} + \frac{77}{16777216} \times \frac{x^{86}}{a^{86}} - \frac{77}{524288} \times \frac{x^{87}}{a^{87}} + \frac{77}{16777216} \times \frac{x^{88}}{a^{88}} - \frac{77}{524288} \times \frac{x^{89}}{a^{89}} + \frac{77}{16777216} \times \frac{x^{90}}{a^{90}} - \frac{77}{524288} \times \frac{x^{91}}{a^{91}} + \frac{77}{16777216} \times \frac{x^{92}}{a^{92}} - \frac{77}{524288} \times \frac{x^{93}}{a^{93}} + \frac{77}{16777216} \times \frac{x^{94}}{a^{94}} - \frac{77}{524288} \times \frac{x^{95}}{a^{95}} + \frac{77}{16777216} \times \frac{x^{96}}{a^{96}} - \frac{77}{524288} \times \frac{x^{97}}{a^{97}} + \frac{77}{16777216} \times \frac{x^{98}}{a^{98}} - \frac{77}{524288} \times \frac{x^{99}}{a^{99}} + \frac{77}{16777216} \times \frac{x^{100}}{a^{100}} - 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\frac{77}{524288} \times \frac{x^{161}}{a^{161}} + \frac{77}{16777216} \times \frac{x^{162}}{a^{162}} - \frac{77}{524288} \times \frac{x^{163}}{a^{163}} + \frac{77}{16777216} \times \frac{x^{164}}{a^{164}} - \frac{77}{524288} \times \frac{x^{165}}{a^{165}} + \frac{77}{16777216} \times \frac{x^{166}}{a^{166}} - \frac{77}{524288} \times \frac{x^{167}}{a^{167}} + \frac{77}{16777216} \times \frac{x^{168}}{a^{168}} - \frac{77}{524288} \times \frac{x^{169}}{a^{169}} + \frac{77}{16777216} \times \frac{x^{170}}{a^{170}} - \frac{77}{524288} \times \frac{x^{171}}{a^{171}} + \frac{77}{16777216} \times \frac{x^{172}}{a^{172}} - \frac{77}{524288} \times \frac{x^{173}}{a^{173}} + \frac{77}{16777216} \times \frac{x^{174}}{a^{174}} - \frac{77}{524288} \times \frac{x^{175}}{a^{175}} + \frac{77}{16777216} \times \frac{x^{176}}{a^{176}} - \frac{77}{524288} \times \frac{x^{177}}{a^{177}} + \frac{77}{16777216} \times \frac{x^{178}}{a^{178}} - \frac{77}{524288} \times \frac{x^{179}}{a^{179}} + \frac{77}{16777216} \times \frac{x^{180}}{a^{180}} - \frac{77}{524288} \times \frac{x^{181}}{a^{181}} + \frac{77}{16777216} \times \frac{x^{182}}{a^{182}} - \frac{77}{524288} \times \frac{x^{183}}{a^{183}} + \frac{77}{16777216} \times \frac{x^{184}}{a^{184}} - \frac{77}{524288} \times \frac{x^{185}}{a^{185}} + \frac{77}{16777216} \times \frac{x^{186}}{a^{186}} - \frac{77}{524288} \times \frac{x^{187}}{a^{187}} + \frac{77}{16777216} \times \frac{x^{188}}{a^{188}} - \frac{77}{524288} \times \frac{x^{189}}{a^{189}} + \frac{77}{16777216} \times \frac{x^{190}}{a^{190}} - \frac{77}{524288} \times \frac{x^{191}}{a^{191}} + \frac{77}{16777216} \times \frac{x^{192}}{a^{192}} - \frac{77}{524288} \times \frac{x^{193}}{a^{193}} + \frac{77}{16777216} \times \frac{x^{194}}{a^{194}} - \frac{77}{524288} \times \frac{x^{195}}{a^{195}} + \frac{77}{16777216} \times \frac{x^{196}}{a^{196}} - \frac{77}{524288} \times \frac{x^{197}}{a^{197}} + \frac{77}{16777216} \times \frac{x^{198}}{a^{198}} - \frac{77}{524288} \times \frac{x^{199}}{a^{199}} + \frac{77}{16777216} \times \frac{x^{200}}{a^{200}} - 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Series. $\frac{-1-2}{4} \times \frac{-1-4}{6} \times \frac{x^3}{a^3}, \&c. = \frac{a}{x} \left| \frac{1}{2} + 1 + \frac{x}{2a} + \frac{3x^2}{8a^2} \right.$
 $\left. + \frac{5x^3}{16a^3} + \frac{35x^4}{128a^4}, \&c. \right.$

2. Required the square root of $a^2 + x^2$?

By comparing this with the general theorem, we have $a = a^2$, $b = x^2$, $m = 1$, $n = 2$. Hence, by substitu-

tion, the series becomes $a \times 1 + \frac{1}{2} \times \frac{x^2}{a^2} + \frac{1}{2} \times \frac{1-2}{2 \times 2}$

$$\times \frac{x^4}{a^4} + \frac{1}{2} \times \frac{1-2}{2 \times 2} \times \frac{1-4}{3 \times 2} \times \frac{x^6}{a^6}, \&c. = a \times 1 + \frac{x^2}{2a}$$

$$- \frac{x^4}{8a^3} + \frac{x^6}{16a^5} - \frac{5x^8}{128a^7}, \&c. \text{ And } \overline{a^2 - b^2}^{\frac{1}{2}} =$$

$$a \times 1 - \frac{x^2}{2a} - \frac{x^4}{8a^3} - \frac{x^6}{16a^5} - \frac{5x^8}{128a^7}, \&c.$$

In order to apply this to numbers, let the square root of 85 be required? Now, the square root of 85 $= \sqrt{81 + 4}$; hence $a = 9$, and $x^2 = 4$.

Then $1 = 1.000000$

$$\frac{x^2}{2a^2} = \frac{4}{2 \times 81} = 0.024691$$

$$\frac{x^4}{8a^4} = \frac{4 \times 4}{8 \times 81 \times 81} = 0.000304$$

$$\frac{x^6}{16a^6} = \frac{4 \times 4 \times 4}{16 \times 81 \times 81 \times 81} = 0.000007$$

$$1.024394$$

$$9$$

$$\text{Square root of } 85 = 9.219546;$$

true except the last decimal.

3. Required the cube root of $a^3 + b^3$?

This being compared with the general theorem gives

$a = x^3$, $b = y^3$, $m = 1$, $n = 3$. Hence $\overline{a^3 + b^3}^{\frac{1}{3}} =$

$$a^{\frac{1}{3}} \times 1 + \frac{1}{3} \times \frac{y^3}{x^3} + \frac{1}{3} \times \frac{1-3}{6} \times \frac{y^6}{x^6} + \frac{1}{3} \times \frac{1-3}{6} \times$$

$$\frac{1-6}{9} \times \frac{y^9}{x^9}, \&c. = a \times 1 + \frac{y^3}{3x^3} - \frac{y^6}{9x^6} + \frac{5y^9}{81x^9} -$$

$$\frac{10y^{12}}{243x^{12}}, \&c. \text{ And } \overline{a^3 - b^3}^{\frac{1}{3}} = a \times 1 - \frac{y^3}{3x^3} - \frac{y^6}{9x^6} -$$

$$\frac{5y^9}{81x^9} - \frac{10y^{12}}{243x^{12}}, \&c.$$

Let the cube root of 600 be required? Now $\overline{600}^{\frac{1}{3}} = 8 \times 1 + \frac{88}{512}$. Then $y^3 = 88$, $x^3 = 512$, $m = 1$, and $n = 3$.

Then $1 = 1.00000000$

$$\frac{y^3}{3x^3} = \frac{88}{3 \times 512} = 0.05729166$$

$$\frac{y^6}{9x^6} = \frac{1}{9} \times \frac{88^2}{512^2} = 0.00328233$$

$$\frac{5y^9}{81x^9} = \frac{5}{81} \times \frac{88^3}{512^3} = 0.00031341$$

$$\frac{10y^{12}}{243x^{12}} = \frac{10}{243} \times \frac{88^4}{512^4} = -0.00003591$$

$$\frac{22y^{15}}{729x^{15}} = \frac{22}{729} \times \frac{88^5}{512^5} = 0.00000453$$

$$\frac{154y^{18}}{6561x^{18}} = \frac{154}{6561} \times \frac{88^6}{512^6} = -0.00000060$$

Series. $\frac{374y^{11}}{19683x^{11}} = \frac{374}{19683} \times \frac{88^7}{512^7} = 0.00000008$
 $\frac{935y^{14}}{59049x^{14}} = \frac{935}{59049} \times \frac{88^8}{512^8} = -0.00000001$

Sum of the positive terms, 1.05760968

Sum of the negative terms, 0.00331885

Difference, 1.05429083
8

Cube root of 600, $= 8.43432664$

In operations of this kind, the nearest power to the given number, whether greater or less than it, is to be used, as by that means the series will converge more quickly.

An infinite series may be involved to any given involution power, or any proposed root of a given series may be extracted by means of the following general theorem. 10
 $z^m \times (a + bx + cx^2 + dx^3 + ex^4, \&c.)^m = z^m$, and evolution of an infinite series.
 multiplied by

$$\left. \begin{aligned} &a^m + mba^{m-1}x + m \cdot \frac{m-1}{2} \cdot a^{m-2}b^2 \\ &\quad + ma^{m-1}c \end{aligned} \right\} x^2$$

$$\left. \begin{aligned} &+ m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot a^{m-3}b^3 \\ &\quad + m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot 2a^{m-2}bc \end{aligned} \right\} x^3$$

$$\left. \begin{aligned} &+ m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot \frac{m-3}{4} \cdot a^{m-4}b^4 \\ &\quad + m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot \frac{m-3}{4} \cdot 3a^{m-3}b^2c \\ &\quad + m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot a^{m-2} \{ 2b^2d + c^2 \} \end{aligned} \right\} x^4$$

$$\left. \begin{aligned} &+ m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot \frac{m-3}{4} \cdot \frac{m-4}{5} \cdot a^{m-5}b^5 \\ &\quad + m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot \frac{m-3}{4} \cdot 4a^{m-4}b^3c \\ &\quad + m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot 3a^{m-3} \{ bc^2 + b^2d \} \\ &\quad + m \cdot \frac{m-1}{2} \cdot 2a^{m-2} \{ cd + be \} \\ &\quad + ma^{m-1}f \end{aligned} \right\} x^5$$

$$\left. \begin{aligned} &+ m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot \frac{m-3}{4} \cdot \frac{m-4}{5} \cdot \frac{m-5}{6} \cdot a^{m-6}b^6 \\ &\quad + m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot \frac{m-3}{4} \cdot \frac{m-4}{5} \cdot 5a^{m-5}b^4c \\ &\quad + m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot \frac{m-3}{4} \cdot a^{m-4} \{ 6b^2c^2 + 4b^3d \} \\ &\quad + m \cdot \frac{m-1}{2} \cdot \frac{m-2}{3} \cdot 3a^{m-3} \{ 3b^2e + 6bcd \} \\ &\quad + m \cdot \frac{m-1}{2} \cdot a^{m-2} \{ 2bf + 2ce + d^2 \} \\ &\quad + ma^{m-1}g \end{aligned} \right\} x^6$$

&c.

Now

Series.

Now each term of the given series is to be compared above theorem; and by substitution in the second, the several terms of the required series will be obtained. Series.

EXAMPLES.

1st. What is the square of the series $y - y^3 + y^5 - y^7 + \&c.$?

By comparing this with the general theorem, we find $z = y$, $a = 1$, $b = 0$, $c = -1$, $d = 0$, $g = -1$, $\&c.$ and $m = 2$; whence $y - y^3 + y^5 - y^7 + \&c. = y^2 \times (1 - 2ax^2 + c^2x^4 - 2cex^6) + 2ex^4 - 2gx^6$, $\&c. = y^2 \times (1 - 2y^2 + 3y^4 - 4y^6) + 2ey^4 - 2gy^6$, $\&c. = y^2 - 2y^4 + 3y^6 - 4y^8, \&c.$

2^d. Required the fourth power of the series $1 + x + x^2 + x^3, \&c.$?

Here $z = 1$, $a = 1$, $b = 1$, $c = 1$, $d = 1$, $\&c.$ and $m = 4$.

$$\begin{aligned} \text{Then } (1 + x + x^2 + x^3, \&c.)^4 &= 1 + 4bx + 6b^2x^2 + 4b^3x^3 + b^4x^4, \&c. \\ &\quad + 4c + 12bc + 12b^2c \\ &\quad + 4d + 6c^2 + 12bd \\ &\quad + 4e \\ &= 1 + 4x + 10x^2 + 20x^3 + 35x^4, \&c. \end{aligned}$$

3^d. What is the square of $\frac{1}{x} + \frac{1}{x^2} + \frac{1}{x^3} + \frac{1}{x^4}, \&c.$

In this case $z = \frac{1}{x}$, $x = \frac{1}{x}$, $a = 1$, $b = 1$, $c = 1$, $d = 1$, $\&c.$ and $m = 2$.

$$\begin{aligned} \text{Then } \left(\frac{1}{x} + \frac{1}{x^2} + \frac{1}{x^3} + \frac{1}{x^4}, \&c. \right)^2 &= \frac{1}{x^2} \times \left(1 + 2b \times \frac{1}{x} + b^2 \times \frac{1}{x^2} + 2bc \times \frac{1}{x^3} + 2bd \times \frac{1}{x^4} + 2c^2 \times \frac{1}{x^6} + 2cd \times \frac{1}{x^7} + c^2 \times \frac{1}{x^8} \right), \&c. \\ &= \frac{1}{x^2} \times \left(1 + \frac{2}{x} + \frac{3}{x^2} + \frac{4}{x^3} + \frac{5}{x^4} + \frac{5}{x^6} + \frac{6}{x^7} + \frac{5}{x^8} \right), \&c. \\ &= \frac{1}{x^2} + \frac{2}{x^3} + \frac{3}{x^4} + \frac{4}{x^5} + \frac{5}{x^6} + \frac{5}{x^8} + \frac{6}{x^7} + \frac{5}{x^8}, \&c. \end{aligned}$$

4th. What is the square root of $\frac{1}{r^2 - \frac{z^2}{2} + \frac{z^4}{4r^2} - \frac{z^6}{6r^4} + \frac{z^8}{8r^6}, \&c.$

The quantity reduced is $\frac{1}{r^2} \times \frac{1}{1 - \frac{z^2}{2r^2} + \frac{z^4}{4r^2} - \frac{z^6}{6r^4} + \frac{z^8}{8r^6}, \&c.$

In this example $z = \frac{1}{r^2}$, $x = z^2$, $a = 1$, $b = -\frac{1}{2r^2}$, $c = \frac{1}{4r^4}$, $d = -\frac{1}{6r^6}$, $\&c.$ and $m = -\frac{1}{2}$, $\frac{m-1}{2} = -\frac{3}{4}$, $\frac{m-2}{3} = -\frac{5}{6}$, $\frac{m-3}{4} = -\frac{7}{8}$, $\&c.$

$$\text{Then } \frac{1}{r^2 - \frac{z^2}{2} + \frac{z^4}{4r^2}, \&c.} = \frac{1}{r^2} \times \left(1 + \frac{x}{4r^2} + \frac{3x^2}{32r^4} + \frac{5x^3}{128r^6}, \&c. \right)$$

$$= \frac{1}{r^2} + \frac{x}{4r^2} + \frac{x^2}{32r^4} + \frac{5x^3}{128r^6}, \&c.$$

$$= \frac{1}{r^2} + \frac{x}{4r^2} + \frac{x^2}{32r^4} + \frac{5x^3}{128r^6}, \&c.$$

11
Of an har-
monical se-
ries.

HARMONIC SERIES, a series of terms formed in harmonical proportion. It has been already observed in the article PROPORTION, that if three numbers be in harmonical proportion, the first is to the third as the difference between the first and second is to the difference between the second and third.

Let a , b , and x be three terms in harmonical proportion: then $a : x :: a - b : b - x$

whence $ax - bx = ab - ax$.

and $2ax - bx = ab$

then $x = \frac{ab}{2a - b}$. Hence the three

first terms of this series is $a, b, \frac{ab}{2a - b}$.

Again, let x be the fourth term, to find which in terms of a and b , we have

$$b : x :: b - \frac{ab}{2a - b} : \frac{ab}{2a - b} - x$$

Then $b \times \frac{ab}{2a - b} - x = \frac{ab^2}{2a - b} - bx$

$$\frac{3ab - 2b^2}{2a - b} \cdot x = \frac{ab^2}{2a - b}$$

$$x = \frac{ab^2}{2a - b} \cdot \frac{2a - b}{3ab - 2b^2} = \frac{ab}{3a - 2b}$$

therefore the four first terms are $a, b, \frac{ab}{2a - b}, \frac{ab}{3a - 2b}$.

Whence the law of the series is obvious, and it may be continued

12
The me-
thod of ex-
tending this
series.

Series. continued as follows, $a, b, \frac{ab}{2a-b}, \frac{ab}{3a-2b}, \frac{ab}{4a-3b},$
 $\frac{ab}{5a-4b},$ &c. and the n^{th} term is $\frac{ab}{n-1 \cdot a - n-2 \cdot b}.$

13 The first term less than the second, and both positive, the series will become negative.

14 But if the first is greater than the second, the series is affirmative

15 The reciprocals of an arithmetical progression in harmonic proportion, and conversely.

16 Summation of a recurring series.

If, in a series of terms in harmonical proportion, a and b be two affirmative quantities, and such that $a < b$; then this series, which is positive at first, will become negative as soon as $n-2 \cdot b$ exceeds $n-1 \cdot a$. But if $a > b$, the series will converge, and although produced to infinity will not become negative.

Let a and b be equal to 2 and 1 respectively; then this series becomes $\frac{2}{1}, \frac{2}{2}, \frac{2}{3}, \frac{2}{4},$ &c. and since, if each term of an harmonical series be divided by the same quantity, the series will still be harmonical. Therefore $\frac{1}{1}, \frac{1}{2}, \frac{1}{3}, \frac{1}{4},$ &c. is an harmonical series: whence the denominators of this series form a series of numbers in arithmetical progression; and conversely, the reciprocals of an arithmetical progression are in harmonical proportion.

Recurring SERIES, a series of which any term is formed by the addition of a certain number of preceding terms, multiplied or divided by any determinate numbers whether positive or negative. Thus 2. 3. 19. 101. 543. 2917. 15671, &c. is a recurring series, each term of which is formed by the addition of the two preceding terms, the first of which being previously multiplied by the constant quantity 2 and the other by 5. Thus the third term $19 = 2 \times 2 + 3 \times 5$; the fourth term $101 = 3 \times 2 + 19 \times 5$, &c.

The principal operation in a series of this nature is that of finding its sum. — For this purpose, the two first and two last terms of the series must be given, together with the constant multipliers.

Let $a, b, c, d, e, f,$ &c. be any number of terms of a series formed according to the above law, each successive term being equal to the sum of the products of the two preceding terms, the first being multiplied by the given quantity m , and the other by the given quantity n . Hence we will have the following series of equations $c = ma + nb, d = mb + nc, e = mc + nd, f = md + ne,$ &c. Then adding these equations, we obtain $c + d + e + f = m \times a + b + c + d + n \times b + c + d + e$. Now the first member of this equation is the sum of all the terms except the two first; the quantity by which m is multiplied in the second member is the sum of all the terms except the two last; and that by which n is multiplied is the sum of all the terms except the first and last. Now let $s =$ sum of the series; then $s - a - b = m \times s - e - f + n \times s - a - f$.

Hence $s = \frac{m \times e + f + n \times a + f - a - b}{m + n - 1}$.

Let the sum of the first seven terms of the above series be required?

Two last terms	$\begin{Bmatrix} 15671 \\ 2917 \end{Bmatrix}$	First term	2
Sum	18588	Last term	15671
	$\frac{2}{2}$	Sum	15673
	$\frac{37176}{78365}$		$\frac{5}{78365}$
Sum	115541		
$-2+3$	5		
$2+5-1=6$	115536		
	19256		

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= Sum of the series.

Reversion of SERIES is the method of finding the value of the quantity whose several powers are involved in a series, in terms of the quantity which is equal to the given series.

In order to this, a series must be assumed, which being involved and substituted for the quantity equal to the series, and its powers, neglecting those terms whose powers exceed the highest power to which it is proposed to extend the series.

Let it be required to revert the series $ax + bx^2 + cx^3 + dx^4 + ex^5,$ &c. $= y$; or, to find x in an infinite series expressed in the powers of y .

Substitute y^n for x , and the indices of the powers of y in the equation will be $n, 2n, 3n,$ &c. and 1, therefore $n=1$; and the differences are 0. 1. 2. 3. 4. 5. &c. Hence, in this case, the series to be assumed is $Ay + By^2 + Cy^3 + Dy^4,$ &c. which being involved and substituted for the respective powers of x , then we have

$$\begin{aligned} ax &= aAy + aBy^2 + aCy^3 + aDy^4, \text{ \&c. } \\ bx^2 &= +bA^2y^2 + 2bABy^3 + 2bACy^4 + bB^2y^4, \text{ \&c. } \\ cx^3 &= +cA^3y^3 + 3cA^2By^4, \text{ \&c. } \\ dx^4 &= +dA^4y^4, \text{ \&c. } \end{aligned} \quad \left. \begin{aligned} & \\ & \\ & \\ & \end{aligned} \right\} = y$$

Whence, by comparing the homologous terms, we

have $aAy = y$; therefore $A = \frac{1}{a}, B = \frac{b}{a^2}, C$

$$\left(= -\frac{2bAB + cA^3}{a} \right) = \frac{2b^2 - ac}{a^3}; D$$

$$\left(= -\frac{2bAC + bB^2 + 3cA^2B + dA^4}{a} \right) =$$

$$\frac{5abc - 5b^3 - a^2d}{a^7}, \text{ \&c. and consequently } x = \frac{y}{a} -$$

$$\frac{by^2}{a^3} + \frac{2b^2 - ac}{a^5} \times y^3 - \frac{5b^3 - 5abc + a^2d}{a^7} \times y^4, \text{ \&c. }$$

Examples.

1st, Let $x = \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4},$ &c. $= y$. There a being in this case equal to 1, $b = -\frac{1}{2}, c = \frac{1}{3}, d = -\frac{1}{4},$ &c. we shall, by substituting these values, have $x = y + \frac{y^2}{2} + \frac{y^3}{6} + \frac{y^4}{24},$ &c.

2d, Let $x = x^2 + x^3 - x^4 + x^5,$ &c. $= y$; to find x ?

In this example we have $x = x, a = 1, b = -1, c = 1, d = -1,$ &c.; whence $x = \frac{y}{1} + \frac{1}{1}y^2 + \frac{2-1}{1}y^3 + \frac{-5+5-1}{1}y^4,$ &c. $= y + y^2 + y^3 + y^4,$ &c.

3d, Let $a = r - \frac{x^2}{2r} + \frac{x^4}{24r^3} - \frac{x^6}{720r^5} + \frac{x^8}{4032r^7}$ &c. to find x ?

Put $r - a = v$; then $v = \frac{x^2}{2r} - \frac{x^4}{24r^3} + \frac{x^6}{720r^5} - \frac{x^8}{4032r^7},$ &c. By comparison we find $x = x^2, y = v,$

$$a = \frac{1}{2r}, b = -\frac{1}{24r^3}, c = \frac{1}{720r^5}, d = -\frac{1}{4032r^7}, \text{ \&c. }$$

Pp

Hence

Series.

$$\text{Hence } x^2 = 2rv - \frac{24r^3}{8r^3}v^2 + \frac{288r^5}{32r^5} - \frac{1}{1440r^6}$$

$$v^3, \&c. = 2rv + \frac{1}{3}v^2 + \frac{4}{45r}v^3 + \frac{1}{35r^2}v^4, \&c.$$

$$\text{whence } x = \sqrt{2rv} \times \left(1 + \frac{v}{12r} + \frac{3v}{160r^2} + \frac{5v^3}{896r^3} + \&c.\right)$$

Summation of SERIES is the method of finding the sum of the terms of an infinite series produced to infinity, or the sum of any number of terms of such a series.

The value of any arithmetical series, as $1^2 + 2^2 + 3^2 + 4^2 + \dots + n^2$, varies according as (n) the number of its terms varies; and therefore, if it can be expressed in a general manner, it must be explicable by n and its powers with determinate coefficients; and those powers, in this case, must be rational, or such whose indices are whole positive numbers; because the progression, being a whole number, cannot admit of surd quantities. Lastly, it will appear that the greatest of the said indices cannot exceed the common index of the series by more than unity: for, otherwise, when n is taken indefinitely great, the highest power of n would be indefinitely greater than the sum of all the rest of the terms.

Thus the highest power of n , in an expression exhibiting the value of $1^2 + 2^2 + 3^2 + 4^2 + \dots + n^2$, cannot be greater than n^3 ; for $1^2 + 2^2 + 3^2 + 4^2 + \dots + n^2$ is manifestly less than n^3 , or $n^2 + n^2 + n^2 + \dots$ continued to n terms; but n^4 , when n is indefinitely great, is indefinitely greater than n^3 , or any other inferior power of n , and therefore cannot enter into the equation. This being premised, the method of investigation may be as follows:

EXAMPLES.

1. Required the sum of n terms of the series $1 + 2 + 3 + 4 + \dots + n$?

Let $An^2 + Bn$ be assumed, according to the foregoing observations, as an universal expression for the value of $1 + 2 + 3 + 4 + \dots + n$, where A and B represent unknown but determinate quantities. Therefore, since the equation is supposed to hold universally, whatsoever is the number of terms, it is evident, that if the number of terms be increased by unity, or, which is the same thing, if $n+1$ be wrote therein instead of n , the equation will still subsist; and we shall have $A \times n + 1 + B \times n + 1 = 1 + 2 + 3 + 4 + \dots + n + n + 1$. From which the first equation being subtracted, there remains $A \times n + 1 + B \times n + 1 - A n^2 + B n = n + 1$; this contracted will be $2An + A + B = n + 1$; whence we have $2A - 1 \times n + A + B - 1 = 0$: Wherefore, by taking $2A - 1 = 0$, and $A + B - 1 = 0$, we have $A = \frac{1}{2}$, and $B = \frac{1}{2}$; and consequently

$$1 + 2 + 3 + 4 + \dots + n (= An^2 + Bn) = \frac{n^2}{2} + \frac{n}{2} = \frac{n \times n + 1}{2}$$

What is the sum of the ten first terms of the series $1 + 2 + 3, \&c.$?

$$\text{In this case } n = 10, \text{ then } \frac{n \times n + 1}{2} = \frac{10 \times 11}{2} = 55.$$

2. Required the sum of the series $1^2 + 2^2 + 3^2 + \dots + n^2$, or $1 + 4 + 9 + 16 + \dots + n^2$?

Let $An^3 + Bn^2 + Cn$, according to the aforesaid observations, be assumed $= 1^2 + 2^2 + 3^2 + \dots + n^2$; then, as in the preceding case, we shall have $A \times n + 1 + B \times n + 1 + C \times n + 1 = 1^2 + 2^2 + 3^2 + \dots + n^2 + n + 1$; that is, by involving $n+1$ to its several powers, $A n^3 + 3 A n^2 + 3 A n + A + B n^2 + 2 B n + B + C n + C = 1^2 + 2^2 + 3^2 + \dots + n^2 + n + 1$; from which subtracting the former equation, we obtain $3 A n^2 + 3 A n + A + 2 B n + B + C (= n + 1) = n^2 + 2 n + 1$; and consequently $3 A - 1 \times n^2 + 3 A + 2 B - 2 \times n + A + B + C - 1 = 0$; whence $3 A - 1 = 0$, $3 A + 2 B - 2 = 0$, and $A + B + C - 1 = 0$; therefore $A = \frac{1}{3}$, $B = \frac{2 - 3 A}{2} = \frac{1}{2}$, $C = 1 - A - B = \frac{1}{6}$.

$$\text{and consequently } 1 + 4 + 9 + 16 + \dots + n^2 = \frac{n^3}{3} + \frac{n^2}{2} + \frac{n}{6},$$

$$\text{or } \frac{n \times n + 1 \times 2 n + 1}{6}.$$

What is the sum of the ten first terms of the series $1^2 + 2^2 + 3^2, \&c.$?

$$\text{Here } n = 10, \text{ then } \frac{n \times n + 1 \times 2 n + 1}{6} = \frac{10 \times 11 \times 21}{6} = 385.$$

3. Required the sum of the series $1^3 + 2^3 + 3^3 + 4^3 + \dots + n^3$, or $1 + 8 + 27 + 64 + \dots + n^3$?

By putting $An^4 + Bn^3 + Cn^2 + Dn = 1 + 8 + 27 + 64 + \dots + n^3$; and proceeding as above, we shall have $4 A n^3 + 6 A n^2 + 4 A n + A + 3 B n^2 + 3 B n + B + 2 C n + C + D (= n + 1)^3 = n^3 + 3 n^2 + 3 n + 1$, and therefore $4 A - 1 \times n^3 + 6 A + 3 B - 3 \times n^2 + 4 A + 3 B + 2 C - 3 \times n + A + B + C + D - 1 = 0$. Hence $A = \frac{1}{4}$, $B (= \frac{3 - 6 A}{3}) = \frac{1}{2}$, $C (= \frac{3 - 4 A - 3 B}{2}) = \frac{1}{4}$, $D (= 1 - A - B - C) = 0$; and therefore $1^3 + 2^3 + 3^3 + 4^3 + \dots + n^3 = \frac{n^4}{4} + \frac{n^3}{2} + \frac{n^2}{4}$, or $= \frac{n^2 \times n + 1}{4}$.

In the very same manner it will be found, that

$$1^4 + 2^4 + 3^4 + \dots + n^4 = \frac{n^5}{5} + \frac{n^4}{2} + \frac{n^3}{3} - \frac{n}{30}$$

$$1^5 + 2^5 + 3^5 + \dots + n^5 = \frac{n^6}{6} + \frac{n^5}{2} + \frac{5n^4}{12} - \frac{n^2}{12}$$

$$1^6 + 2^6 + 3^6 + \dots + n^6 = \frac{n^7}{7} + \frac{n^6}{2} + \frac{n^5}{2} - \frac{n^3}{6} + \frac{n}{42}$$

What is the sum of the ten first terms of the series $1^3 + 2^3 + 3^3, \&c.$?

$$n = 10, \text{ then } \frac{n^2 \times n + 1}{4} = \frac{100 \times 121}{4} = 25 \times 121 = 3025.$$

4. Required the sum of n terms of the series of triangular numbers $0, 1, 3, 6, 10, \dots + n$?

Let $An^3 + Bn^2 + Cn = 0, 1, 2, 3, \dots + n$. Now the $n+1$ th term of this series, by Example 2. is $\frac{n^2}{2} + \frac{n}{2}$. Then $A \times n + 1 + B \times n + 1 + C =$

$$n + 1 = \frac{n^2}{2} + \frac{n}{2}. \text{ Now, the first equation being subtracted from this, we have } 3 A n^2 + 3 A + 2 B \times n + A + B + C = \frac{n^2}{2} + \frac{n}{2}. \text{ Or, } 3 A n^2 + 3 A n + A$$

A

Series. $A + C = \frac{n^3}{2} + \frac{1}{2} - 2B \times n - B.$

Whence, by equating the homologous terms, we have $3A = \frac{1}{2}$, and $A = \frac{1}{6}$; $\frac{1}{2} - 2B = 3A$; whence $2B = \frac{1}{2} - \frac{1}{2} = 0$, $A + C = -B$. Hence $C = -\frac{1}{6}$. Now, these values being substituted in the above equation, gives the sum $= \frac{n^3}{6} - \frac{n}{6} =$

$$\frac{n \cdot n - 1 \cdot n + 1}{1 \cdot 2 \cdot 3}; \text{ and if } n + 1 \text{ be put for } n, \text{ the}$$

sum of n terms of this series will be $\frac{n \cdot n + 1 \cdot n + 2}{1 \cdot 2 \cdot 3}.$

By proceeding in the same manner, the sum of n terms of pyramidal numbers, 1, 4, 10, 20, 35, &c....

$$n \text{ will be found } = \frac{n \cdot n + 1 \cdot n + 2 \cdot n + 3}{1 \cdot 2 \cdot 3 \cdot 4}.$$
 And

the sum of any series of figurate numbers is determined by a like formula, the law of continuation being obvious.

What is the sum of the ten first terms of triangular numbers 1, 3, 6, 10, 15, &c.?

$$\text{Here } n = 10; \text{ then } \frac{n \cdot n + 1 \cdot n + 2}{1 \cdot 2 \cdot 3} = \frac{10 \times 11 \times 12}{6} = 220.$$

5. Let the sum of the series $\frac{1}{R} + \frac{2}{R^2} + \frac{3}{R^3}$ continued to n terms be required?

If we multiply this series indefinitely continued by $R - 1$, or $R^2 - 2R + 1$, the product is R ; there-

fore the amount of the indefinite series is $\frac{R}{R - 1}$, and

the sum of n terms may be found by subtracting the terms after the n th from that amount. Now, the terms

after the n th are $\frac{n+1}{R^{n+1}} + \frac{n+2}{R^{n+2}}$, &c. which may be divided into the two following series:

$$\text{First, } \frac{n}{R^n} \times \frac{1}{R} + \frac{1}{R^2} + \frac{1}{R^3}, \&c. = \frac{n}{R^n} \times \frac{1}{R-1}.$$

$$\text{Second, } \frac{1}{R^n} \times \frac{1}{R} + \frac{2}{R^2} + \frac{3}{R^3}, \&c. = \frac{1}{R^n} \times \frac{R}{R-1}.$$

Now, if we write a for $\frac{1}{R^n}$, and r for $R - 1$, and subtract the sum of these two series from the amount of the proposed series indefinitely continued, the remainder will be found $= \frac{1-a}{r} \times R - \frac{na}{r}.$

6. Let the sum of the series $\frac{n-1}{nR} + \frac{n-2}{nR^2} + \frac{n-3}{nR^3}$ &c. be required?

This series is equal to the difference of the two following.

$$\text{First, } \frac{n}{nR} + \frac{n}{nR^2} + \frac{n}{nR^3}, \&c. = \frac{1}{R} + \frac{1}{R^2} + \frac{1}{R^3}, \&c. = \frac{1-a}{r}.$$

$$\text{Second, } \frac{1}{nR} + \frac{2}{nR^2} + \frac{3}{nR^3}, \&c. = \frac{1}{n} \times \frac{1}{R} + \frac{1}{R^2} + \frac{1}{R^3}$$

$$\&c. = \frac{1}{n} \times \frac{1-a}{r} \times R - \frac{a}{r}.$$

The difference of these series is $\frac{1-a}{r} - \frac{R}{n} \times \frac{1-a}{r} + \frac{a}{r}$, Serlingapatam.
which reduced becomes $\frac{n+a-1 \times r + a-1}{nr^2}.$

To proceed farther would lead us far beyond the limits assigned for this article; we must therefore refer those who require more information on this subject to the following authors.—Bertrand's *Développement*, &c. vol. 1; Dodson's *Mathematical Repository*, vol. 1; Emerson's *Algebra*; Appendix to Gravesend's *Algebra*; Hutton's *Paper on Cubic Equations and Infinite Series*, in the *Philosophical Transactions* for 1780; MacLaurin's *Fluxions*; Malcolm's *Arithmetic*; Masere's *Annuities*; and *Scriptores Logarithmici*, &c.; De Moivre's *Doctrine of Chances*, and a *Paper by the same author in the Philosophical Transactions*, n^o 240; Simpson's *Algebra*, *Essays*, *Fluxions*, and *Miscellanies*; Sterling's *Summatio et Interpolatio Serierum*; *Syntagma Mathematicorum*, &c.

SERLINGAPATAM, the capital of Mysore, the dominions of Tippoo Sultan, is situated in an island of the Caverry river, about 290 or 300 miles from Madras. The island, upon survey, appeared to be about four miles in length by one and a half in breadth, across the middle, where it is likewise highest, whence it gradually falls and narrows towards the extremities. The west end of the island, on which there is a fort of considerable strength, slopes more, especially towards the north; and the ground rising on the opposite side of the river commands a distinct view of every part of the fort. The fort and outworks occupy about a mile of the west end of the island, and are distinguished by magnificent buildings, and ancient Hindoo pagodas, contrasted with the more lofty and splendid monuments lately raised in honour of the Mahometan faith. The great garden, called the *Laul Baug*, covers about as much of the east end of the island as the fort and outworks do of the west; and the whole intermediate space, except a small inclosure on the north bank near the fort, was, before the last war, filled with houses, and formed an extensive suburb, of which the greatest part was destroyed by Tippoo to make room for batteries to defend the island when attacked by the combined forces of Earl Cornwallis and the Mahratta chiefs in February 1792. This suburb, or town of modern structure, is about half a mile square, divided into regular cross streets, all wide, and shaded on each side by trees. It is surrounded by a strong mud wall, contains many good houses, and seems to have been preserved by the Sultan for the accommodation of merchants, and for the convenience of troops stationed on that part of the island for its defence. A little to the eastward of the town is the entrance to the great garden, which was laid out in regular shady walks of large cypress trees, and abounding with fruit-trees, flowers, and vegetables of every description. It possessed all the beauty and elegance of a country retirement, and was dignified by the mausoleum of Hyder the late sultan, and a superb new palace built by his son. This noble garden was devoted to destruction; and the trees which had shaded their proud master, and contributed to his pleasures, were formed into the means of protecting his enemies in subverting his empire. Before that event, so glorious to the arms of England, this insulated metropolis

Seringham
||
Seriphus.

(says Major Dirom) must have been the richest, most convenient, and beautiful spot possessed in the present age by any native prince in India; but when the allies left it, the Sultan's fort and city only remained in repair amidst all the wrecks of his former grandeur, the island presenting nothing but the appearance of wretched barrenness. Tippoo is a man of talents, enterprise, and great wealth; but, in the opinion of our author, the remaining years of his ill-fated life will be unequal to renew the beauties of his terrestrial paradise. N. Lat. $12^{\circ} 31' 45''$. E. Long. $96^{\circ} 46' 45''$.

SERINGHAM, an island of Indostan, formed about six miles north-west of Trinchinopoly by the river Cavery, which divides itself into two branches: that to the northward takes the name of *Coleroon*, but the southern branch preserves its old name the *Cavery*. Each of these rivers, after a course of about 90 miles, empty themselves into the sea; the *Coleroon* at Devicottah, and the *Cavery* near Tranquebar, at about 20 miles distance from one another. In this island, facing Trinchinopoly, stood a famous pagoda surrounded by seven square walls of stone, 25 feet high and four feet thick. The space between the outward and second walls measured 310 feet, and so proportionably of the rest. Each inclosure had four large gates, with a high tower; which were placed, one in the middle of each side of the inclosure, and opposite to the four cardinal points. The outward wall was about four miles in circumference, and its gateway to the south was ornamented with pillars, some of which were single stones 33 feet in length and five in diameter; while those that formed the roof were still larger; and in the inmost inclosure were the chapels.—About half a mile to the east was another large pagoda called *Jumbikistna*, which had but one inclosure.

The pagoda of Seringham was held in great veneration, from a belief that it contained the identical image of the god Wisnoui worshipped by Bramas; and pilgrims came here from all parts of India with offerings of money to procure absolution. A large part of the revenue of the island was allotted for the maintenance of the Bramins who inhabited the pagoda; and these, with their families, formerly amounted to no fewer than 40,000 persons, all maintained by the superstitious liberality of the adjacent country.

SERIOLA, in botany: A genus of plants belonging to the order of polygamia æqualis, and to the class of syngenesia; and in the natural system ranged under the 49th order, *Compositæ*. The receptacle is paleaceous; the calyx simple; and the pappus is somewhat plumose. There are four species; 1. The *Levigata*. 2. *Æthnensis*. 3. *Cretensis*. 4. *Urens*. The first is a native of the island of Candia, and flowers in July and August; the second is a native of Italy; and the fourth is a native of the south of Europe.

SERIPHUM, in botany; a genus of plants belonging to the order of monogamia, and to the class of syngenesia. The calyx is imbricated; the corolla is monopetalous and regular, with one oblong seed under it. There is only one species, the *cinereum*, which is a native of the Cape of Good Hope.

SERIPHUS (anc. geog.), one of the Cyclades or islands in the Ægean sea, called *Saxum Seriphium* by Tacitus, as if all a rock; one of the usual places of banishment among the Romans. The people, *Seriphii*;

who, together with the Siphniæ, joined Greece against Xerxes, were almost the only islanders who refused to give him earth and water in token of submission, (Herodotus). *Seriphia Rana*, a proverbial saying concerning a person who can neither sing nor say; frogs in this island being said to be dumb, (Pliny).

SERMON, a discourse delivered in public, for the purpose of religious instruction and improvement.

Funeral SERMON. See *FUNERAL ORATIONS*.

SERON OF ALMONDS, is the quantity of two hundred weight; of anise seed, it is from three to four hundred; of Castile soap, from two hundred and an half to three hundred and three quarters.

SEROSITY, in medicine, the watery part of the blood.

SERPENS, in astronomy, a constellation in the northern hemisphere, called more particularly *Serpens Ophiuchi*. The stars in the constellation Serpens, in Ptolemy's catalogue, are 18; in Tycho's, 13; in Hevelius's, 22; and in the Britannic catalogue, 64.

SERPENS Biceps, or *Double-headed Snake*; a monster of the serpent kind, there being no permanent species of this conformation. That represented on Plate CCCXLIX. and copied from Edwards, came from the island of Barbadoes; and was said to have been taken out of an egg of the size of a small pullet's egg by a man who found it under-ground as he was digging. The heads were not in an horizontal position when the snake lay on its belly, but inclined to each other on their under-sides, leaving an opening for the throat to come in between the two heads underneath, as is expressed at A. The upper-side, for the whole length, was covered with small scales, falling one over another; the belly was covered with single scales running across it, in the form of half rings. It was all over of a yellowish colour, without any spots or variation. Mr Edwards also informs us, that a person brought to him a common English snake, which had two heads quite separate from each other, the necks parting about an inch from the head.

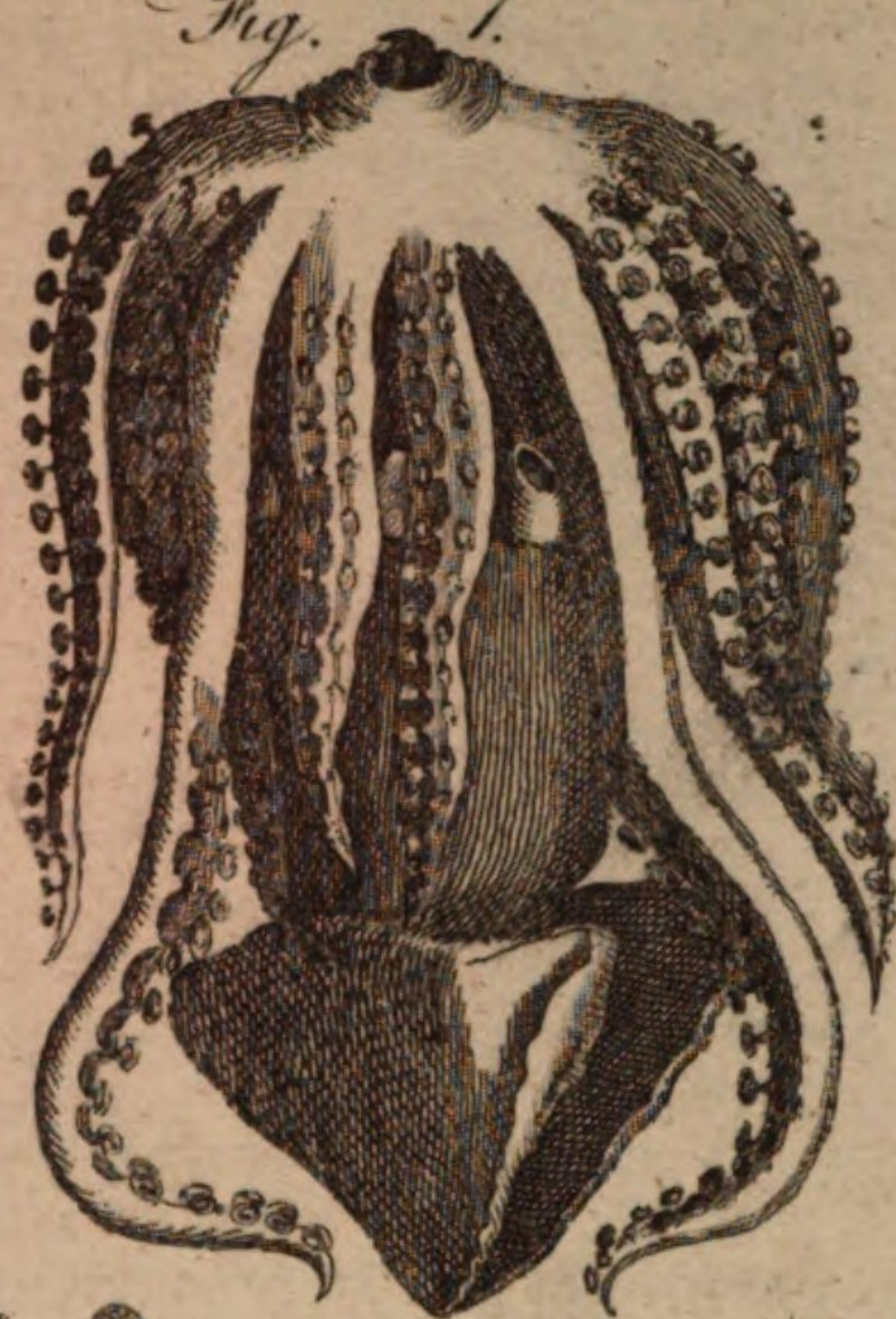
SERPENS, *Serpent*, in the Linnæan system of zoology, an order of animals belonging to the class of *amphibia*, and comprehending six genera, viz. the *crotalus*, or rattle-snake; the *boa*, including ten species; the *coluber*, or viper; the *anguis*, or snake; the *amphisbena*, or annulated snake, the body and tail of which are composed of annular segments; and the *cæcilia*, or tentaculated snake, the body and tail of which are wrinkled, without scales, and the upper part furnished with two feelers; and including two species. See an account of these genera under their respective names.

The characters of serpents, according to Linnæus, Distinction 1. are these: They are amphibious animals, breathing through the mouth by means of lungs only; having a tapering body, no distinct neck; the jaws not articulated, but dilatable, and destitute of feet, fins, and ears. Distinguishing character of serpents.

The serpent has from the beginning been the enemy of man; and it has hitherto continued to terrify and annoy him, notwithstanding all the arts which have been practised to destroy it. Formidable in itself, it deters the invader from the pursuit; and from its figure, capable of finding shelter in a little space, it is not easily discovered by those who would venture to encounter it. Thus possessed at once of potent arms, and inaccessible or secure retreats, it baffles all the arts. General observations.

Sermon
||
Serpens.

Fig. 1.



Sepia or Cuttle fish.

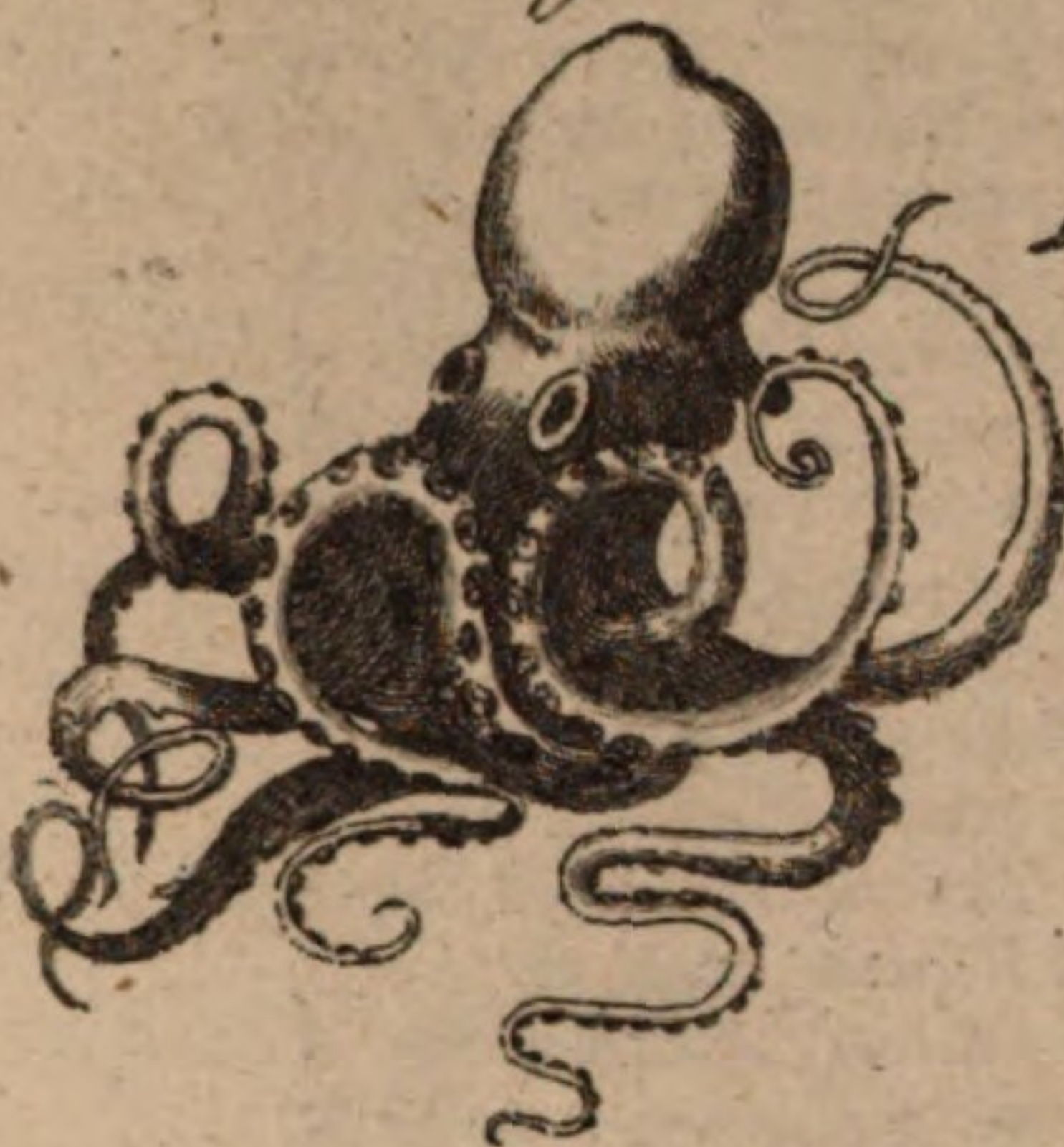
Fig. 5.



Fig. 3.



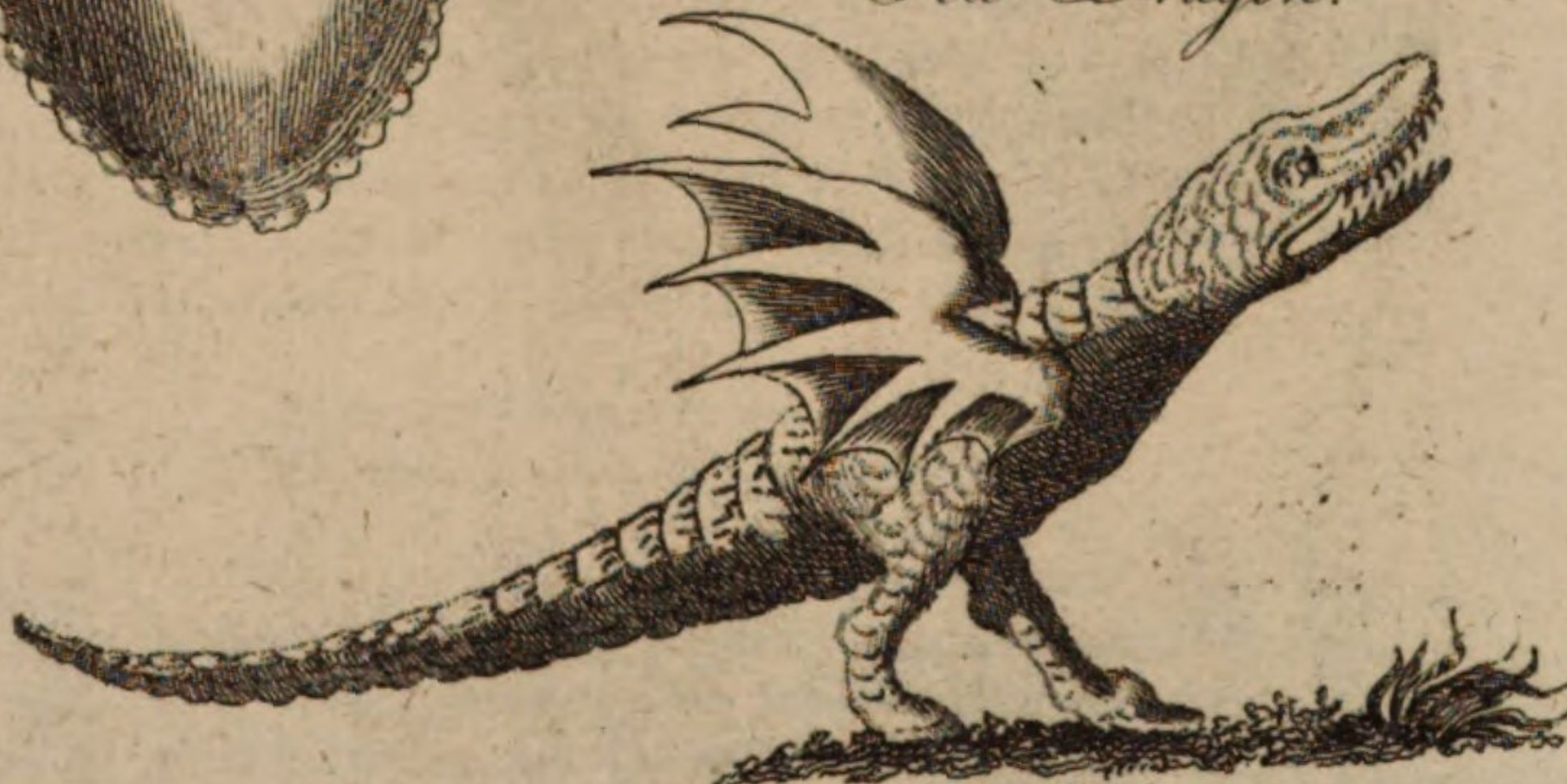
Fig. 2.



Scythrops nova Hollandiae



Sea Dragon.



Serpens Biceps.



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Serpens.

arts of man, though ever so earnestly bent upon its destruction. For this reason, there is scarce a country in the world that does not still give birth to this poisonous brood, that seems formed to quell human pride, and repress the boasts of security. Mankind have driven the lion, the tiger, and the wolf, from their vicinity; but the snake and the viper still defy their power.

Their numbers, however, are thinned by human avarice; and it is possible some of the kinds are wholly destroyed. In none of the countries of Europe are they sufficiently numerous to be truly terrible. The various malignity that has been ascribed to European serpents of old is now utterly unknown; there are not above three or four kinds that are dangerous, and their poison operates in all in the same manner. The drowly death, the starting of the blood from every pore, the insatiable and burning thirst, the melting down the solid mass of the whole form into one heap of putrefaction, said to be occasioned by the bites of African serpents, are horrors with which we are entirely unacquainted.

But though we have thus reduced these dangers, having been incapable of wholly removing them, in other parts of the world they still rage with all their ancient malignity. In the warm countries that lie within the tropics, as well as in the cold regions of the north, where the inhabitants are few, the serpents propagate in equal proportion. But of all countries those regions have them in the greatest abundance where the fields are unpeopled and fertile, and where the climate supplies warmth and humidity. All along the swampy banks of the river Niger or Oroonoko, where the sun is hot, the forests thick, and the men but few, the serpents cling among the branches of the trees in infinite numbers, and carry on an unceasing war against all other animals in their vicinity. Travellers have assured us, that they have often seen large snakes twining round the trunk of a tall tree, encompassing it like a wreath, and thus rising and descending at pleasure.—We are not, therefore, to reject as wholly fabulous the accounts left us by the ancients of the terrible devastations committed by a single serpent. It is probable, in early times, when the arts were little known, and mankind were but thinly scattered over the earth, that serpents, continuing undisturbed possessors of the forest, grew to an amazing magnitude; and every other tribe of animals fell before them. It then might have happened, that serpents reigned the tyrants of a district for centuries together. To animals of this kind, grown by time and rapacity to 100 or 150 feet in length, the lion, the tiger, and even the elephant itself, were but feeble opponents. That horrible factor, which even the commonest and the most harmless snakes are still found to diffuse, might, in these larger ones, become too powerful for any living being to withstand; and while they preyed without distinction, they might thus also have poisoned the atmosphere around them. In this manner, having for ages lived in the hidden and unpeopled forest, and finding, as their appetites were more powerful, the quantity of their prey decreasing, it is possible they might venture boldly from their retreats into the more cultivated parts of the country, and carry consternation among mankind, as they had before desolation among the lower ranks of nature. We have many histories of antiquity, presenting us such a pic-

ture, and exhibiting a whole nation sinking under the ravages of a single serpent. At that time man had not learned the art of uniting the efforts of many to effect one great purpose. Opposing multitudes only added new victims to the general calamity, and increased mutual embarrassment and terror. The animal was therefore to be singly opposed by him who had the greatest strength, the best armour, and the most undaunted courage. In such an encounter, hundreds must have fallen; till one, more lucky than the rest, by a fortunate blow, or by taking the monster in its torpid interval, and surcharged with spoil, might kill, and thus rid his country of the destroyer. Such was the original occupation of heroes; and those who first obtained that name, from their destroying the ravagers of the earth, gained it much more deservedly than their successors, who acquired their reputation only for their skill in destroying each other. But as we descend into more enlightened antiquity, we find these animals less formidable, as being attacked in a more successful manner. We are told, that while Regulus led his army along the banks of the river Bagrada in Africa, an enormous serpent disputed his passage over. We are assured by Pliny, that it was 120 feet long, and that it had destroyed many of the army. At last, however, the battering engines were brought out against it; and these assailing it at a distance, it was soon destroyed. Its spoils were carried to Rome, and the general was decreed an ovation for his success. There are, perhaps, few facts better ascertained in history than this: an ovation was a remarkable honour; and was given only for some signal exploit that did not deserve a triumph: no historian would offer to invent that part of the story at least, without being subject to the most shameful detection. The skin was kept for several years after in the Capitol; and Pliny says he saw it there. At present, indeed, such ravages from serpents are scarce seen in any part of the world; not but that, in Africa and America, some of them are powerful enough to brave the assaults of men to this day.

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*Nequent expleri corda tuendo
Terribiles oculos villosaque setis pectore.*

If we take a survey of serpents in general, they have marks by which they are distinguished from all the rest of animated nature. They have the length and the suppleness of the eel, but want fins to swim with; they have the scaly covering and pointed tail of the lizard, but they want legs to walk with; they have the crawling motion of the worm, but, unlike that animal, they have lungs to breathe with: like all the reptile kind, they are resentful when offended; and nature has supplied them with terrible arms to revenge every injury.

Though they are possessed of very different degrees of malignity, yet they are all formidable to man, and have a strong similitude of form to each other. With respect to their conformation, all serpents have a very wide mouth in proportion to the size of the head; and, what is very extraordinary, they can gape and swallow the head of another animal which is three times as big as their own. However, it is noway surprising that the skin of the snake should stretch to receive so large a morsel; the wonder seems how the jaws could take it in.

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To explain this, it must be observed, that the jaws of this animal do not open as ours, in the manner of a pair of hinges, where bones are applied to bones, and play upon one another: on the contrary, the serpent's jaws are held together at the roots by a stretching muscular skin; by which means they open as widely as the animal chooses to stretch them, and admit of a prey much thicker than the snake's own body. The throat, like stretching leather, dilates to admit the morsel; the stomach receives it in part, and the rest remains in the gullet, till putrefaction and the juices of the serpent's body unite to dissolve it.

4
Their
teeth.

Some serpents have fangs or canine teeth, and others are without them. The teeth in all are crooked and hollow; and, by a peculiar contrivance, are capable of being erected or depressed at pleasure.

5
Eyes.

The eyes of all serpents are small, if compared to the length of the body; and though differently coloured in different kinds, yet the appearance of all is malign and heavy; and, from their known qualities, they strike the imagination with the idea of a creature meditating mischief. In some, the upper eyelid is wanting, and the serpent winks only with that below; in others, the animal has a nictitating membrane or skin, resembling that which is found in birds, which keeps the eye clean and preserves the sight. The substance of the eye in all is hard and horny; the crystalline humour occupying a great part of the globe.

The holes for hearing are very visible in all: but there are no conduits for smelling; though it is probable that some of them enjoy that sense in tolerable perfection.

6
Tongue.

The tongue in all these animals is long and forky. It is composed of two long fleshy substances, which terminate in sharp points, and are very pliable. At the root it is connected very strongly to the neck by two tendons, that give it a variety of play. Some of the viper kind have tongues a fifth part of the length of their bodies; they are continually darting them out; but they are entirely harmless, and only terrify those who are ignorant of the real situation of their poison.

7
Gullet.

If from the jaws we go on to the gullet, we shall find it very wide for the animal's size, and capable of being distended to a great degree; at the bottom of this lies the stomach, which is not so capacious, and receives only a part of the prey, while the rest continues in the gullet for digestion. When the substance in the stomach is dissolved into chyle, it passes into the intestines, and from thence goes to nourishment, or to be excluded by the vent.

8
Lungs and
heart.

Like most other animals, serpents are furnished with lungs, which we suppose are serviceable in breathing, though we cannot perceive the manner in which this operation is performed; for though serpents are often seen apparently to draw in their breath, yet we cannot find the smallest signs of their ever respiring it again. Their lungs, however, are long and large, and doubtless are necessary to promote their languid circulation. The heart is formed as in the tortoise, the frog, and the lizard kinds, so as to work without the assistance of the lungs. It is single; the greatest part of the blood flowing from the great vein to the great artery by the shortest course. By this contrivance of nature we easily gather two consequences; that snakes are amphibious, being equally capable of living on land

and in the water; and that also they are torpid in winter, like the bat, the lizard, and other animals formed in the same manner.

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The vent in these animals serves for the emission of the urine and the feces, and for the purposes of generation. The instrument of generation in the male is double, being forked like the tongue: the ovaries in the female are double also; and the aperture is very large, in order to receive the double instrument of the male. They copulate in their retreats; and it is said by the ancients, that in this situation they appear like one serpent with two heads.

9
Mode of
generation.

As the body of this animal is long, slender, and capable of bending in every direction, the number of joints in the back-bone are numerous beyond what one would imagine. In the generality of quadrupeds, they amount to not above 30 or 40; in the serpent kind they amount to 145 from the head to the vent, and 25 more from that to the tail. The number of these joints must give the back-bone a surprising degree of pliancy; but this is still increased by the manner in which each of these joints are locked into the other. In man and quadrupeds, the flat surfaces of the bones are laid one against the other, and bound tight by sinews; but in serpents, the bones play one within the other like ball and socket, so that they have full motion upon each other in every direction.

10
Number of
joints in
the back-
bone.

Though the number of joints in the back-bone is great, yet that of the ribs is still greater; for, from the head to the vent, there are two ribs to every joint, which makes their number 290 in all. These ribs are furnished with muscles, four in number; which being inserted into the head, run along to the end of the tail, and give the animal great strength and agility in all its motions.

11
Number of
ribs.

The skin also contributes to its motions, being composed of a number of scales, united to each other by a transparent membrane, which grows harder as it grows older, until the animal changes, which is generally done twice a-year. This cover then bursts near the head, and the serpent creeps from it by an undulatory motion, in a new skin, much more vivid than the former. If the old slough be then viewed, every scale will be distinctly seen like a piece of net-work, and will be found greatest where the part of the body they covered was largest.

12
Scales;

There is much geometrical neatness in the disposal of the serpent's scales, for assisting the animal's sinuous motion. As the edges of the foremost scales lie over the ends of their following scales, so those edges, when the scales are erected, which the animal has a power of doing in a small degree, catch in the ground, like the nails in the wheel of a chariot, and so promote and facilitate the animal's progressive motion. The erecting these scales is by means of a multitude of distinct muscles with which each is supplied, and one end of which is tacked each to the middle of the foregoing.

In some of the serpent kind there is the exactest symmetry in these scales; in others they are disposed more irregularly. In some there are larger scales on the belly, and often answering to the number of ribs; in others, however, the animal is without them. Upon this slight difference, Linnaeus has founded his distinctions of the various classes of the serpent tribe.

When we come to compare serpents with each other, Their size, the

13

Serpens. the first great distinction appears in their size; no other tribe of animals differing so widely in this particular. This tribe of animals, like that of fishes, seems to have no bounds put to their growth: their bones are in a great measure cartilaginous, and they are consequently capable of great extension; the older, therefore, a serpent becomes, the larger it grows; and as they seem to live to a great age, they arrive at an enormous size.

Leguat assures us, that he saw one in Java that was 50 feet long. Carli mentions their growing to above 40 feet; and we have now the skin of one in the British Museum that measures 32. Mr Wentworth, who had large concerns in the Berbices in America, assures us, that in that country they grow to an enormous length. He one day sent out a soldier, with an Indian, to kill wild-fowl for the table; and they accordingly went some miles from the fort: in pursuing their game, the Indian, who generally marched before, beginning to tire, went to rest himself upon the fallen trunk of a tree, as he supposed it to be; but when he was just going to sit down, the enormous monster began to move; and the poor savage perceiving that he had approached a *boa*, the greatest of all the serpent kind, dropped down in an agony. The soldier, who perceived at some distance what had happened, levelled at the serpent's head, and by a lucky aim shot it dead: however, he continued his fire until he was assured that the animal was killed; and then going up to rescue his companion, who was fallen motionless by its side, he, to his astonishment, found him dead likewise, being killed by the fright. Upon his return to the fort, and telling what had happened, Mr Wentworth ordered the animal to be brought up, when it was measured, and found to be 36 feet long. He had the skin stuffed, and then sent to Europe as a present to the prince of Orange, in whose cabinet it was lately to be seen at the Hague; but the skin is shrunk, by drying, two or three feet. In the East Indies they grow also to an enormous size, particularly in the island of Java, where, we are assured, that one of them will destroy and devour a buffalo. See *Boa*.

14
Gluttony,

But it is happy for mankind that the rapacity of these frightful creatures is often their punishment; for whenever any of the serpent kind have gorged themselves in this manner, whenever their body is seen particularly distended with food, they then become torpid, and may be approached and destroyed with safety. Patient of hunger to a surprising degree, whenever they seize and swallow their prey, they seem, like surfeited gluttons, unwieldy, stupid, helpless, and sleepy: they at that time seek some retreat, where they may lurk for several days together, and digest their meal in safety: the smallest effort at that time is capable of destroying them; they can scarce make any resistance; and they are equally unqualified for flight or opposition: that is the happy opportunity of attacking them with success; at that time the naked Indian himself does not fear to assail them. But it is otherwise when this sleepy interval of digestion is over; they then issue, with famished appetites, from their retreats, and with accumulated terrors, while every animal of the forest flies before them.

15
And abstinence.

But though these animals are of all others the most voracious, and though the morsel which they swallow without chewing, is greater than what any other crea-

ture, either by land or water, can devour; yet no animals upon earth bear abstinence so long as they. A single meal, with many of the snake kind, seems to be the adventure of a season; it is an occurrence, of which they have been for weeks, nay sometimes for months, in patient expectation. When they have seized their prey, their industry for several weeks is entirely discontinued; the fortunate capture of an hour often satisfies them for the remaining period of their annual activity. As their blood is colder than that of most other terrestrial animals, and as it circulates but slowly through their bodies, so their powers of digestion are but feeble. Their prey continues, for a long time, partly in the stomach, partly in the gullet, and is often seen in part hanging out of the mouth. In this manner it digests by degrees; and in proportion as the part below is dissolved, the part above is taken in. It is not therefore till this tedious operation is entirely performed, that the serpent renews its appetite and its activity. But should any accident prevent it from issuing once more from its cell, it still can continue to bear famine for weeks, months, nay for years together. Vipers * are often kept in boxes for six or eight months, without any food whatever; and there are little serpents sometimes sent over to Europe from Grand Cairo, that live for several years in glasses, and never eat at all, nor even stain the glass with their excrements.

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Other creatures have a choice in their provision: but the serpent indiscriminately preys upon all; the buffalo, the tiger, and the gazelle. One would think that the porcupine's quills might be sufficient to protect it; but whatever has life serves to appease the hunger of these devouring creatures: porcupines, with all their quills, have frequently been found in their stomachs when killed and opened; nay, they most frequently are seen to devour each other.

16
Food.

A life of savage hostility in the forest offers the imagination one of the most tremendous pictures in nature. In those burning countries, where the sun dries up every brook for hundreds of miles round; when what had the appearance of a great river in the rainy season, becomes, in summer, one dreary bed of sand; in those countries, a lake that is never dry, or a brook that is perennial—is considered by every animal as the greatest convenience of nature. When they have discovered this, no dangers can deter them from attempting to slake their thirst. Thus the neighbourhood of a rivulet, in the heart of the tropical continents, is generally the place where all the hostile tribes of nature draw up for the engagement. On the banks of this little envied spot, thousands of animals of various kinds are seen venturing to quench their thirst, or preparing to seize their prey. The elephants are perceived in a long line, marching from the darker parts of the forest; the buffaloes are there, depending upon numbers for security; the gazelles relying solely upon their swiftness; the lion and tiger waiting a proper opportunity to seize; but chiefly the larger serpents are upon guard there, and defend the accesses of the lake. Not an hour passes without some dreadful combat; but the serpent, defended by its scales, and naturally capable of sustaining a multitude of wounds, is, of all others, the most formidable. It is the most wakeful also; for the whole tribe sleep with their eyes open, and are consequently for ever upon the watch: so that, till their rapacity is satisfied,

17
Places frequent.

few

Serpens few other animals will venture to approach their station.

18
The sound which they utter. In comparing serpents as to their voices, some are found silent, some have a peculiar cry; but hissing is the sound which they most commonly send forth, either as a call to their kind, or as a threat to their enemies. In the countries where they abound, they are generally silent in the middle of the day, when they are obliged to retire from the heat of the climate; but as the cool of the evening approaches, they are then heard issuing from their cells with continued hissings; and such is the variety of their notes, that some have assured us they very much resemble the music of an English grove. This some will hardly credit; at any rate, such notes, however melodious, can give but very little delight, when we call to mind the malignity of the minstrel. If considered, indeed, as they answer the animal's own occasions, they will be found well adapted to its nature, and fully answering the purposes of terrifying such as would venture to offend it.

19
How they move. With respect to motion, some serpents, particularly those of the viper kind, move slowly; while others dart with amazing swiftness. The motion in all is similar; but the strength of body in some gives a very different appearance. The viper, that is but a slow feeble-bodied animal, makes way in a heavy undulating manner; advancing its head, then drawing up its tail behind, and bending the body into a bow; then from the spot where the head and tail were united, advancing the head forward as before. This, which is the motion of all serpents, is very different from that of the earth-worm or the naked snail. The serpent, as was said above, has a back-bone, with numerous joints; and this bone the animal has a power of bending in every direction, but without being able to shorten or lengthen it at pleasure. The earth-worm, on the other hand, has no back-bone; but its body is composed of rings, which, like a barber's puff, it can lengthen or shorten as it finds necessary. The earth-worm, therefore, in order to move forward, lengthens the body; then by the fore part clings to the ground where it has reached, and then contracts and brings up its rear: then, when the body is thus shortened, the fore-part is lengthened again for another progression, and so on. The serpent, instead of shortening the body, bends it into an arch; and this is the principal difference between serpentine and vermicular progression.

We have instanced this motion in the viper, as most easily discerned; but there are many serpents that dart with such amazing swiftness, that they appear rather to leap than crawl. It is most probable, however, that no serpent can dart upon even ground farther than its own length at one effort. Our fears indeed may increase the force of their speed, which is sometimes found so fatal. We are told by some, that they will dart to a very great distance; but this we have never been able to ascertain. The manner of progression in the swiftest serpent we know, which is the jaculus, is by instantly coiling itself upon its tail, and darting from thence to its full extent; then carrying the tail, as quick as lightning, to the head; coiling and darting again; and by this means proceeding with extreme rapidity, without ever quitting the ground. Indeed, if we consider the length and the weakness of the back-bone in all these animals; if we regard the make

of the vertebræ, in which we shall find the junctures all formed to give play, and none to give power; we cannot be of opinion that they have a faculty of springing from the ground, as they entirely want a *fulcrum*, if we may so express it, from whence to take their spring; the whole body being composed of unsupported muscles and joints that are yielding.

Though all serpents are amphibious, some are much fonder of the water than others; and though destitute of fins or gills, remain at the bottom, or swim along the surface, with great ease. From their internal structure, we see how well adapted they are for either element: and how capable their blood is of circulating at the bottom as freely as in the frog or the tortoise. They can, however, endure to live in fresh water only; for salt is an effectual bane to the whole tribe. The greatest serpents are most usually found in fresh water, either choosing it as their favourite element, or finding their prey in such places in the greatest abundance. But that all will live and swim in liquids, appears from an experiment of Redi; who put a serpent into a large glass vessel of wine, where it lived swimming about six hours; though, when it was by force immersed and put under that liquid, it lived only one hour and an half. He put another in common water, where it lived three days; but when it was kept under water, it lived only about 12 hours. Their motion there, however, is perfectly the reverse of what it is upon land; for, in order to support themselves upon an element lighter than their bodies, they are obliged to increase their surface in a very artificial manner. On earth their windings are perpendicular to the surface; in water they are parallel to it: in other words, if a person should wave his hand up and down, it will give an idea of the animal's progress on land; if to the right and left, it will give some idea of its progress on the water.

Some serpents have a most horrible fœtor attending them, which is alone capable of intimidating the brave. This proceeds from two glands near the vent, like those in the weasel or polecat; and, like those animals, in proportion as they are excited by rage or by fear the scent grows stronger. It would seem, however, that such serpents as are most venomous are least offensive in this particular; since the rattlesnake and the viper have no smell whatever; nay, we are told, that at Calcut and Cranganon, in the East Indies, there are some very noxious serpents, who are so far from being disagreeable, that their excrements are sought after, and kept as the most pleasing perfume. The Esculapian serpent is also of this number.

Some serpents bring forth their young alive, as the viper; some bring forth eggs, which are hatched by the heat of their situation, as the common black snake, and the majority of the serpent tribe. When a reader, ignorant of anatomy, is told, that some of those animals produce their young alive, and that some produce eggs only, he is apt to suppose a very great difference in the internal conformation, which makes such a variety in the manner of bringing forth. But this is not the case: these animals are internally alike, in whatever manner they produce their young; and the variety in their bringing forth is rather a slight than a real discrimination. The only difference is, that the viper hatches her eggs, and brings them to maturity, within her body; the snake is more premature in her productions,

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tions, and sends her eggs into the light some time before the young ones are capable of leaving the shell. Thus, if either are opened, the eggs will be found in the womb, covered with their membranous shell, and adhering to each other like large beads on a string. In the eggs of both, the young ones will be found, though at different stages of maturity: those of the viper will crawl and bite in the moment the shell that incloses them is broke open: those of the snake are not yet arrived at their perfect form.

Father Labat took a serpent of the viper kind that was nine feet long, and ordered it to be opened in his presence. He then saw the manner in which the eggs of these animals lie in the womb. In this creature there were six eggs, each of the size of a goose egg, but longer, more pointed, and covered with a membranous skin, by which also they were united to each other. Each of these eggs contained from 13 to 15 young ones, about six inches long, and as thick as a goose-quill. Though the female from whence they were taken was spotted, the young seemed to have a variety of colours very different from the parent; and this led the traveller to suppose that the colour was no characteristic mark among serpents. These little mischievous animals were no sooner let loose from the shell, than they crept about, and put themselves into a threatening posture, coiling themselves up and biting the stick with which he was destroying them. In this manner he killed 74 young ones; those that were contained in one of the eggs escaped at the place where the female was killed, by the bursting of the egg and their getting among the bushes.

22
Fascinating
power
ascribed to
serpents.

The fascinating power ascribed to serpents, especially to rattlesnakes, by which they are said to draw animals to them, is very curious. It has been described by so many different persons, who affirmed that they had seen instances of it, and has been believed by so many men of penetration and discernment, that it deserves at least to be mentioned. The rattlesnake fixes its eyes upon any animal, such as a bird or squirrel. When the animal spies the snake, it skips from spray to spray, hovering and approaching nearer the enemy; descending, with distracted gestures and cries, from the top of the loftiest trees to the mouth of the snake, who opens his jaws, and in an instant swallows the unfortunate animal.

The following instances of fascination have so much the appearance of fiction, that it would require a very uncommon degree of evidence to render them credible. They are extracted from a paper in the Gentleman's Magazine for the year 1765, p. 511. which was communicated by Mr Peter Collinson from a correspondent in Philadelphia.

"A person of good credit was travelling by the side of a creek or small river, where he saw a ground squirrel running to and fro between the creek and a great tree a few yards distant; the squirrel's hair looking very rough, which showed he was scared, and his returns being shorter and shorter, the man stood to observe the cause, and soon spied the head and neck of a rattlesnake pointing at the squirrel through a hole of the great tree, it being hollow; the squirrel at length gave over running, and laid himself quietly down with his head close to the snake's; the snake then opened his mouth wide, and took in the squirrel's head; upon which the man gave

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the snake a whip across the neck, and so the squirrel being released, he ran into the creek.

"When I was about 13 years old, I lived with William Atkinson, an honest man in Bucks county, who, returning from a ride in warm weather, told us, that while his horse was drinking at a run, he heard the cry of a blackbird, which he spied on the top of a sapling, fluttering and straining the way he seemed unwilling to fly, and holding so fast the sprigs he was perched upon that the sappling top bent. After he had viewed the bird a few minutes, it quitted the place, and made a circle or two higher in the air, and then resumed its former standing, fluttering and crying: Thereupon William rode the way the bird strained, and soon spied a large black snake in coil, steadily eyeing the bird. He gave the snake a lash with his whip, and this taking off the snake's eye from his prey, the charm was broken, and away fled the bird, changing its note to a song of joy.

"Mr Nicholas Scull, a surveyor, told me, that when he was a young man, as he happened once to be leaning upon a fence, and looking over it, he saw a large rattlesnake in coil, looking stedfastly at him. He found himself surprised and listless immediately, and had no power for about a minute (as he thinks) but to look at the snake, and then he had the resolution to push himself from the fence, and turn away, feeling such horror and confusion as he would not undergo again for any consideration.

"Doctor Chew tells me, a man in Maryland was found fault with by his companion that he did not come along; the companion stepping towards him, observed that his eyes were fixed upon a rattlesnake which was gliding slowly towards him, with his head raised as if he was reaching up at him; the man was leaning towards the snake, and saying to himself, *he will bite me! he will bite me!* Upon which his companion caught him by the shoulder, and pulled him about, and cried out, *What the devil ails you? He will bite you sure enough!* This man found himself very sick after his enchantment."

The fascinating power of serpents was believed by Dr Mead and other eminent men, who certainly thought they had sufficient evidence for admitting it. Incredible therefore as it appears, it ought not to be rejected without examination; though being of a very extraordinary nature, it cannot be received without unquestionable evidence. Scepticism is no less absurd than incredulity; and the true philosopher will carefully avoid both. Human knowledge is founded on observation and experience; not, however, on every man's personal observation and experience, but on the united observation and experience of all mankind. But this presupposes the credibility of human testimony in every case that does not involve an impossibility. All the laws of nature are not yet known, nor all the wonderful powers of which she is possessed. It is not more incredible *a priori*, that the eye of a serpent should attract an animal than that a magnet should attract a piece of iron, or a piece of iron attract electrical matter. The evidence of these facts rests entirely on personal observation or authentic testimony. The only thing requisite with respect to objects of testimony is, when the fact is so extraordinary as has not fallen within the observation of the generality of men, the strength

Qq

of

Serpent.

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of the evidence must be in proportion to the extraordinary nature of the fact. To apply this to the present case: We have the testimony of many persons that some serpents have a power of fascination; but the generality of men have never observed this; it is therefore an extraordinary fact, and requires extraordinary evidence. But the evidence is not satisfactory; therefore we do not receive it as a fact: on the other hand, it is unphilosophical to reject it *à priori*.

23
How their
poison operates.

No subject has excited more philosophical controversy than the poison of serpents, with regard to its nature and mode of operating. Antiquity has not been sparing in conjecture and fiction upon this subject, and its errors have been retained with the most reverential obstinacy by the vulgar: among these we are to reckon the fictitious sting fixed in the tail of the serpent, as the painters sometimes have groundlessly enough represented it; some have invented a similar fiction of a black forked tongue, which the serpent vibrates on both sides, and have ascribed its power of producing such noxious effect to this; while others, affecting an air of superior discernment, have, upon equally good reasons, ascribed it to the teeth in general: these are all errors of a magnitude that the most desultory attention to the subject would have been sufficient to have removed. There is a very small bone closely fixed to the upper jaw, in the inside of the lip of a poisonous serpent, which has a power of moving backward or forward; to this two or three fangs are annexed larger than the teeth, which the serpent, by its assistance, when enraged, darts forward, or withdraws and conceals at his pleasure, in a similar manner to the claws of a cat: these fangs, which the common people name the large teeth of the serpent, are excellently described by Tyson in the anatomy of the rattlesnake, which he has given in the Philosophical Transactions. "In these (the fangs) we observed a considerable cavity near the base; and near the point a very discernible fissure of some length like the slit of a pen: the part of the tooth from the fissure to the root was manifestly channelled, which we first discovered by lightly pressing the gums; we then saw the poison ascend through the cavity of the fang and flow out of the fissure; and as these fangs are so very acute, so firm and solid toward the point (the fissure being on the external and convex, not the internal side), nothing could be conceived more convenient either for inflicting a wound, or to insure the infusion of the poison." Each of the fangs is surrounded with a vesicle furnished with glands secreting a certain fluid; which, upon the vesicle being pressed, seems to flow out of the point of the fang. The serpent when incensed, raising his head, extends the small bone armed with the fangs mentioned above; and attacking his enemy with a force combined of the weight of his body and the action of the muscles, he wounds him with the expanded fangs, and the vesicle being compressed the poison immediately flows into the wound: this is clear from the experience of those who, having broken off their fangs with a pair of forceps, handled the serpent thus disarmed without any hurt. The North Americans, after carefully extracting these venomous fangs, suffer the rattlesnake to bite and gnaw them with his teeth till the blood flows freely, with total impunity.

Antiquity amused itself with a fable destitute of all appearance of truth, that anger was excited by black

bile: they applied this fiction without hesitation to the present subject, and founded an hypothesis upon it, to account for the effects of the bite of an incensed serpent; pretending to have discovered an ideal canal which conducted the bile from its vesicle to the mouth of the serpent, whence it flowed into the part bitten, and produced the most fatal symptoms. But toward the end of the last century, this subject was greatly illustrated under the auspices of Ferdinand II. Great Duke of Tuscany: This prince, desirous of inquiring into that mysterious question, the nature of serpents, invited Steno, Rhedi, and some other philosophers of the first eminence, to his court; and a multitude of the most poisonous serpents being collected, Rhedi made several experiments upon them, which discovered to him a number of particulars before unknown; of which the following seem to have the best claim to our attention. When he either caused a living viper to bite a dog, or wounded him with the teeth of one newly dead (the poisonous vesicle remaining unbroken), the event was the same. If the bite was repeated, its effect became weaker, and at last was lost, the poison contained in the vesicle being totally exhausted. That the teeth of serpents, when extended to bite, were moistened over with a certain liquor; and when the vesicle at the base was pressed, a drop of poison flowed to the point of the fang. When the poison thus flowing from the vesicle was received in soft bread or a sponge, an animal bitten by the serpent received no more harm from the wound than from being pricked by a needle, till after a few days, when the venom was restored afresh: but when an animal was wounded with the point of a needle dipped in the poison, it was tormented with the same pains as if it had been bitten by the viper itself. Preserving some of this poison in a glass, and totally evaporating the moisture in the sun, when the residuum was diluted again with water, and the point of a needle dipped in the solution, Rhedi found to his great surprise that it had the same effect as when recent. But the boldness of Tozzi, one who charmed vipers, flung all these men who were deeply versed in natural philosophy into the utmost astonishment. They happening to fall into discourse (while the prince was present) upon the certain death which would attend any person's swallowing this poison of the viper by mistake, instead of spirit of wine or water; Tozzi, confiding in his art, drank a considerable portion of it without hesitation: they were all astonished at his apparent rashness, and predicted instant death to the man; however, he escaped as safely as if he had drunk only so much water. This event, which struck the prince and his illustrious associates in these philosophical inquiries by its novelty, was well known to the ancients. Lucan, in the 9th book of the Pharsalia, speaking of the serpent, says,

*Noxia serpentum est admisso sanguine pestis
Morsu virus habent et fatum dente minantur,
Pocula morte carent.* Phar. l. 9. v. 614.

Mix'd with the blood that venom slays alone,
His bite is poison; death is in his fang;
Yet is the draught innoxious.

Nor must we omit observing, that barbarous nations are perfectly acquainted with the property of the poison of serpents by which it retains its deadly power after

ter

Serpent.

ter it has been long kept : they have been possessed of this fatal secret for ages past ; it being their custom to tinge the points of their arrows with the juice of spurge, putrid flesh, or oil of tobacco, but more particularly with the poison of vipers. Some modern Indians continue the practice to this day ; and we have the testimony of Pliny, in his Natural History, that the Scythians had long ago the same custom : "The Scythians (says that author) dip their arrows in the poison of vipers and human blood ; a horrid practice, as the slightest wound inflicted by one of them defies all the art of medicine."

The poison of serpents produces fatal effects only by mixing with the blood. To confirm this principle, the Florentine philosophers collected a quantity of poison, and gave it to different animals without producing the least inconvenience ; but when applied to an external wound, every one of those horrid symptoms which accompany the real bite followed, viz. inflammatory and malignant fevers, ending in death, unless nature, by a spontaneous hemorrhage, or some other evacuation, discharged this poison. With respect to the experiments of Rhedi, every one of his observations prove, that the liquid pressed out of the vesicle which moistens the fangs of the serpents is only noxious by being conveyed into the blood, by means of a puncture or wound ; and the case of Tozzi, who drank a considerable quantity of this poison without suffering injury, proves that it hurts the blood only when externally mixed with it.

24
Symptoms
attending
the bite of
different
serpents.

The symptoms of the bite of the viper have already been described under MEDICINE, n° 408. with the cures recommended by Dr Mead for the bite of serpents in general. Under the article POISON, p. 269. we have mentioned the Abbé Fontana's method of cure, viz. ligatures, and the beneficial effects of the volatile alkali. We shall now therefore supply what has been omitted in these articles, by describing the symptoms which accompany the bite of other serpents.

The symptoms attending the bite of the *coluber pester*, a native of Sweden, are, pain in the wound, tumor, thirst, asthma, anxieties, convulsions, and death.

There is a serpent still more dreadful than any of the former, found in Sweden, called *coluber carcia*. The bite of this is followed by immediate change of colour, coldness, stupor, palpitation of the heart, acute pain all over the body, and death. Linnæus tried oil in this case, but it proved ineffectual.

The *crotalus horridus* of Linnæus, the rattlesnake, kills in a very sudden manner ; his bite usually producing death within twelve hours.

The following account of the poison serpent of the East Indies is given by M. d'Obsonville. "Among the serpents of India, that which I believe to be most formidable is but about two feet long, and very small. Its skin is freckled with little traits of brown or pale red, and contrasted with a ground of dirty yellow : it is mostly found in dry and rocky places, and its bite mortal in less than one or two minutes. In the year 1759, and in the province of Cadapet, I saw several instances of it ; and among others, one very singular, in the midst of a corps of troops commanded by M. de Buffy. An Indian Gentoo merchant perceived a Mahometan soldier of his acquaintance going to kill one of these reptiles, which he had found sleeping under his packet,

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the Gentoo flew to beg its life, protesting it would do no hurt if it was not first provoked ; passing at the same time his hand under its belly to carry it out of the camp, when suddenly it twisted round, and bit his little finger ; upon which this unfortunate martyr of a fanatic charity gave a shriek, took a few steps, and fell down insensible. They flew to his assistance, applied the serpent-stone, fire, and scarifications, but they were all ineffectual, his blood was already coagulated. About an hour after, I saw the body as they were going to burn it, and I thought I perceived some indications of a complete dissolution of the blood.

"The *serpens brulans*, or burning serpent, is nearly of the same form with the last mentioned ; its skin is not quite of so deep a brown, and is speckled with dark green spots ; its poison is almost as dangerous, but it is less active, and its effects are very different : in some persons it is a devouring fire, which, as it circulates through the veins, presently occasions death ; the blood dissolves into a lymphatic liquor, resembling thin broth, without apparently having passed through the intermediate state of coagulation, and runs from eyes, nose, and ears, and even through the pores. In other subjects, the poison seems to have changed the very nature of the humours in dissolving them ; the skin is chapped and becomes scaly, the hair falls off, the members are tumefied, the patient feels all over his body the most racking pains, numbness, and is not long in perishing. It is said, however, that people have been cured by remedies well and soon applied. Be that as it may, it seems to me that the poison of these different reptiles is in general more powerful the more they live in hot and dry places, where they feed upon insects that are full of saline, volatile, and acrimonious particles."

We are ignorant of what specie the *hemorrhoids* was, which is described by Lucan as causing by its bite a flux of blood from every part of the body. But the bite of an American serpent named *de la cruz* kills in the same manner.

The *dipsasas* is at present likewise unknown. Lucan informs us, that the person wounded by it was attacked by an unquenchable thirst. This is finely painted by him ; where A. Tuscus, standard-bearer of Cato, is described as bitten by that serpent :

*Non decus imperii, non mæsti jura Catonis
Ardentem tenere virum, quin spargere signa
Auderet, totisque furens exquireret agris
Quas poscebat aquas sitiens in corde venenum.*

Pharsal. l. 9.

His wild impatience, not his honour'd state,
Nor sorrowing Cato's high command, restrain ;
Furious, dishonour'd in the dust, he flings
His sacred eagle, and o'er all the fields
Rapid he bursts to seek the cooling stream,
To quench the thirsty poison in his breast.

And a few verses after :

*Scrutatur venas penitus squalentis arena
Nunc redit ad Syrtis, et fluctus accipit ore,
Aquoreasque placet, sed non sibi sufficit humor,
Neo sentit satique genus, mortemque veneni,
Sed putat esse sitim ; ferroque aperire tumentes
Sustinuit venas, atque os implere cruore.*

Q. q. 2

Now

Serpent.

Now tearing up the sands, some latent vein
Frustrate he seeks; now to the Syrtes shore
Return'd, he swallows down the briny flood
Mix'd with its rolling sands; nor knows his fate
And the sad poison's death, but calls it thirst;
Then with his sword opens his spouting veins,
And drinks the bursting blood. —

The *phytas*, or *amodytes* of Linnæus, or, according to others, the *coluber aspis*, seems to have been the serpent made use of by Cleopatra to destroy herself. This woman, to terminate a dissipated life with an easy death, ordered her physicians to prepare a poison for her which might best effect this purpose. Having tried a number of different experiments upon condemned criminals, they at last discovered this species of asp, which brings on death without any previous appearance of distemper or hiccough: the face seems in a slight perspiration, an easy insensibility and lethargy creeps upon the whole frame, and the person bitten seems almost totally ignorant of his approaching dissolution. Having acquainted the queen with their discovery, she applied the asp either to her bosom or her arms; or, according to some authors, dipping the point of a needle in the poison, and pricking herself with it, she expired in an easy sleep.

The bite of the *naja* is so fatal, that a man dies by it in the space of an hour, his flesh entirely falling off his bones in a semidissolved putrid state: this makes it probable that it is the same serpent which the ancients named the *sepe*.

The experiments of Rhedi have not, in the opinion of some celebrated philosophers, so far cleared the theory of the operation of the poison of the viper, as to leave nothing further to be desired upon that subject. Fontana and Carminati have endeavoured to investigate its operations more clearly. Carminati, from 11 experiments, deduces the following conclusions: 1. That if poison be instilled into a nerve, the animal wounded dies almost instantly; and the whole nervous system, to which it is rapidly conveyed, is deprived of its quality called *sensibility*. 2. If a muscle be wounded, it is deprived of its irritability. This is confirmed by the experiments of Fontana. 3. The poison injected into a wounded muscle or tendon is considerably longer in killing an animal than that introduced into a nerve. 4. The symptoms which precede the death of the animal bitten are, a stupor, lethargy, tremors, convulsions, paralysis of the legs (part wounded), entire dissolution of the limbs. The blood is not always coagulated, nor its crasis dissolved. Marks of inflammation are sometimes discovered in certain parts of the animal after death, sometimes not: these are the effects of spasms and convulsions, not of the poison. 5. Not the least sign of the jaundice was discoverable in the eyes of any of the animals upon which Carminati made his experiments. 6. The stomach in every one of them was very much inflated; a symptom remarked only by Fallopius and Albertini. 7. A ligature applied instantly above the part bitten, if it be so placed as to admit one, was found by some experiments a good preventative against the diffusion of the poison: its compression should be considerable, but not excessive.

As few serpents, comparatively speaking, are poisonous, it may be interesting to our readers to know what

are the characteristics which distinguish poisonous from harmless serpents. The external characteristics of the poisonous tribe are these:

“1. A broad head, covered with small scales, though it be not a certain criterion of venomous serpents, is, with some few exceptions, a general character of them. “2. A tail under one-fifth of the whole length is also a general character of venomous serpents; but, since many of those which are not venomous have tails as short, little dependence can be placed upon that circumstance alone. On the other hand, a tail exceeding that proportion, is a pretty certain mark that the species to which it belongs is not venomous.”

“3. A thin and acute tail is by no means to be considered as peculiar to venomous serpents; though a thick and obtuse one is only to be found among those which are not venomous.”

“4. Carinated scales are, in some measure, characteristic of venomous serpents, since in them they are more common than smooth ones, in the proportion of nearly four to one; whereas smooth scales are, in those serpents which are not venomous, more common, in the proportion of nearly three to one.”

“Upon the whole, therefore, it appears, that though a pretty certain conjecture may, in many instances, be made from the external characters, yet, in order to determine with certainty whether a serpent be venomous or not, it becomes necessary to have recourse to some certain diagnostic. This can only be sought for in the mouth: we must therefore next consider how the fangs, with which the mouths of venomous serpents are furnished, are to be distinguished from common teeth.”

“To those who form their ideas of the fangs of a venomous serpent, from those of the rattlesnake, or even from those of the English viper, it will appear strange that there should be any difficulty in distinguishing those weapons from common teeth; and indeed the distinction would really be very easy, were all venomous serpents furnished with fangs as large as those of the fore-mentioned species. But the fact is, that in many species the fangs are full as small as common teeth, and consequently cannot, by their size, be known from them; this is the case with the *coluber laticaudatus*, *læteus*, and several others.”

Linnæus thought that the fangs might be distinguished by their mobility and situation; but other naturalists have not found it a general fact that fangs are loose in their sockets, nor have they observed any difference in situation between the fangs of venomous serpents and the teeth of others. The following distinction is established by Dr Gray in a paper inserted in the Philosophical Transactions, Vol. lxxix. *All venomous serpents have only two rows of teeth in the upper jaw, and all others have four.*

In the preface to the *Museum Regis*, and in the introduction to the class amphibia in the *Systema Naturæ*, Linnæus says, that the proportion of venomous serpents to others is one in ten; yet, in the *Systema Naturæ*, of which the sum total in species is 131, he has marked 23 as venomous, which is somewhat more than one in six. How he came to be so much at variance with himself, it is not easy to say; but the last mentioned proportion seems to be not far from the truth, as Dr Gray, after examining 154 species of serpents, found only 26 that seemed to be venomous.

The

Serpent.

The *coluber stolatus* and *myæterizans*, though marked by Linnæus, we are assured by Dr Gray are not poisonous: he thinks the same may be said of the *leberis* and *dypsar*. On the other hand, he observes, that the *boa constrictrix*, *coluber cerasles*, *laticaudatus*, and *coluber fulvus*, none of which are marked in the *Système Naturel*, are all poisonous.

• P. 32.

In addition to the method of cure mentioned in the articles referred to above, we shall subjoin the prescription of a new author, Dr Moseley*, who spent 12 years in the West Indies, and whose abilities and extensive practice very justly intitle his opinion to a place in this work, to the attention of the public, and to all medical gentlemen going to the West Indies.

26
Dr Moseley's method of cure.

"The bites and stings of all venomous animals are cured by the same local means; which are very simple, if they were always at hand. The injured part must be instantly destroyed or be cut out. Destroying it is the most safe, and equally certain: and the best application for that purpose is the lapis infernalis or the butter of antimony.—These are preferable to an hot iron, which the ancients used, because an hot iron forms a crust, which acts as a defence to the under parts, instead of destroying them. The lapis infernalis is much better than any other caustic, as it melts and penetrates during its application. The bitten part must be destroyed to the bottom, and where there is any doubt that the bottom of the wound is not sufficiently exposed, butter of antimony should be introduced into it on the following day, as deep as possible; and incisions should be made to lay every part open to the action of these applications. Besides destroying, burning, or cutting out the part, incisions should be made round the wound, to prevent the communication of the virus. The wound is to be dressed for some time with poultices, to assuage the inflammation caused by the caustics; and afterwards with acrid dressings and hot digestives to drain the injured parts.

"Where the above-mentioned caustics cannot be procured, corrosive sublimate, oil of vitriol, aquafortis, spirit of salt, common caustic, or a plaster made of quicklime and soap, may be applied to the wound. Gunpowder laid on the part, and fired, has been used with success. When a person is bitten remote from any assistance, he should make a tight ligature above the part, until proper application can be made. The Spanish writers say, that the *habilla de Carthagera*, or Carthagera bean, is a specific for poisonous bites, taken inwardly.

"Ulloa says, it is 'one of the most effectual antidotes known in that country (Carthagera) against the bites of vipers and serpents: for a little of it being eaten immediately after the bite, it presently stops the effects of the poison; and accordingly all who frequent the woods, either for felling trees or hunting, never fail to eat a little of this habilla fasting, and repair to their work without any apprehension.

'The natives tell you, that this habilla being hot in the highest degree, much of it cannot be eaten; that

the common dose of it is less than the fourth part of a kernel; and that no hot liquor, as wine, brandy, &c. must be drunk immediately after taking it.'

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"The Carthagera bean, or habilla, is found in great abundance in the West Indian islands, where it is generally known by the name of *Antidote* or *Cocoon*, or *Antidote Cocoon*. In small doses it is stomachic and diaphoretic; and in large doses emetic and purgative. In several disorders it is a powerful remedy; but its virtues are not sufficiently known, except among the Indians and negroes, who chiefly use an infusion or tincture of it made in rum. This is externally as well as internally used for many complaints (A).

"I have been informed by some intelligent Indians, that any of the red peppers, such as bird pepper, or bell pepper, or what is called *Cayenne pepper*, powdered and taken in a glass of rum as much as the stomach can possibly bear, so as to cause, and keep up for some time, great heat and inflammation in the body and a vigorous circulation, will stop the progress of the poison of serpents, even after its effects are visible; and that the bitten part only afterwards mortifies and separates, and that the patient, with bark, wine, and cordials, soon recovers.

"This fiery practice is certainly agreeable to that of the ancients, and probably the only internal treatment that can have any good effect; as in these cases the powers of life, and the action of the heart, are suddenly enfeebled, and the pulse in strength and frequency observes almost a regular declension from the time of the bite until it entirely ceases in death."

Polygala senega, or rattlesnake-root, was formerly considered as a sovereign remedy for the bite of the rattlesnake; but this opinion is now exploded. ²⁷ Why some serpents are poisonous.

If it be asked for what purpose were serpents created with such destructive weapons? we answer, that they were given for self-defence. Without these, serpents, of all other animals, would be the most exposed and defenceless; without feet for escaping a pursuit, without teeth capable of inflicting a dangerous wound, or without strength for resistance; incapable, from their size, of finding security in very small retreats like the earthworm, and disgusting all from their deformity, nothing was left for them but a speedy extirpation. But furnished as they are with powerful poison, every rank of animals approach them with dread, and never seize them but at an advantage. Nor is this all the benefit they derive from it. The malignity of a few serves for the protection of all. Though not above a tenth of their number are actually venomous, yet the similitude they all bear to each other excites a general terror of the whole tribe; and the uncertainty of their enemies about what serpents are poisonous, makes even the most harmless formidable. Thus Providence seems to have acted with double precaution: it has given some of them poison for the general defence of a tribe naturally feeble; but it has thinned the numbers of those which are venomous, lest they should become too powerful for the rest of animated nature.

From

(A) "This bean is the seed of the *Fevillea foliis cordatis* of Plumier, Ed. Burmanni, p. 203. tab. 209. *Fevillea foliis cordatis*, angulatis, of Linnæus, Spec. P. *Fevillea foliis crassioribus*, glabris, quandoque cordatis, quandoque trilobis, or *Antidote Cocoon*, of Brown, p. 374."

Serpent.

28
Enemies of
serpents.*See V.
VERRA and
SUS.

From these noxious qualities in the serpent kind, it is no wonder that not only man, but beasts and birds, carry on an unceasing war against them. The ichneumon of the Indians, and the peccary * of America, destroy them in great numbers. These animals have the art of seizing them near the head; and it is said that they can skin them with great dexterity. The vulture and the eagle also prey upon them in great abundance; and often, fousing down from the clouds, drop upon a long serpent, which they snatch up struggling and writhing in the air. Dogs also are bred up to oppose them. Father Feuillée tells us, that being in the woods of Martinico, he was attacked by a large serpent, which he could not easily avoid, when his dog immediately came to his relief, and seized the assailant with great courage. The serpent entwined him, and pressed him so violently, that the blood came out of his mouth, and yet the dog never ceased till he had torn it to pieces. The dog was not sensible of his wounds during the fight; but soon after his head swelled prodigiously, and he lay on the ground as dead. But his master having found a banana tree hard by, he applied its juice mixed with treacle to the wounds, which recovered the dog, and quickly healed his sores.

¶ See
PSYLLI.29
Some per-
sons fa-
mous for
charming
them.

The Psylli of old were famous for charming and destroying serpents ¶. Some moderns pretend to the same art. Casaubon says that he knew a man who could at any time summon 100 serpents together, and draw them into the fire. Upon a certain occasion, when one of them, bigger than the rest, would not be brought in, he only repeated his charm, and it came forward, like the rest, to submit to the flames. Philostratus describes particularly how the Indians charm serpents, "They take a scarlet robe, embroidered with golden letters, and spread it before a serpent's hole.—The golden letters have a fascinating power; and by looking stedfastly, the serpent's eyes are overcome and laid asleep." These and many other feats have been often practised upon these animals by artful men, who had first prepared the serpents for their exercise, and then exhibited them as adventitiously assembled at their call. In India there is nothing so common as dancing serpents, which are carried about in a broad flat vessel, somewhat resembling a sieve. These erect and put themselves in motion at the word of command. When their keeper sings a slow tune, they seem by their heads to keep time; when he sings a quicker measure, they appear to move more brisk and lively. All animals have a certain degree of docility; and we find that serpents themselves can be brought to move and approach at the voice of their master. From this trick, successfully practised before the ignorant, it is most probable has arisen most of the boasted pretensions which some have made to charming of serpents; an art to which the native Americans pretend at this very day, but the existence of which we are assured of by Mr Hasselquist amongst the native Egyptians.

30
Regarded
with vene-
ration in
some coun-
tries.

Though the generality of mankind regard this formidable race with horror, yet there have been some nations, and there are some at this day, that consider them with veneration and regard. The adoration paid by the ancient Egyptians to a serpent is well known: many of the nations at present along the western coast of Africa retain the same unaccountable veneration. Up-

on the gold and slave coasts, a stranger, upon entering the cottages of the natives, is often surprised to see the roof swarming with serpents, that cling there without molesting and unmolested by the natives. But his surprise will increase upon going farther southward to the kingdom of Widah, when he finds that a serpent is the god of the country. This animal, which travellers describe as a huge overgrown creature, has its habitation, its temple, and its priests. These impress the vulgar with an opinion of its virtues; and numbers are daily seen to offer not only their goods, their provisions, and their prayers, at the shrine of their hideous deity, but also their wives and daughters. These the priests readily accept of, and after some days of penance return them to their suppliants, much benefited by the serpent's supposed embraces.

SERPENT, a musical instrument, serving as a bass to the cornet, or *small shawm*, to sustain a chorus of fingers in a large edifice. It has its name *serpent* from its figure, as consisting of several folds or wreaths, which serve to reduce its length, which would otherwise be six or seven feet.

It is usually covered with leather, and consists of three parts, a mouth-piece, a neck, and a tail. It has six holes, by means whereof it takes in the compass of two octaves.

Merfennus, who has particularly described this instrument, mentions some peculiar properties of it, *e. gr.* that the sound of it is strong enough to drown 20 robust voices, being animated merely by the breath of a boy, and yet the sound of it may be attuned to the softness of the sweetest voice. Another peculiarity to this instrument is, that great as the distance between the third and fourth hole appears, yet whether the third hole be open or shut, the difference is but a tone.

SERPENT, in mythology, was a very common symbol of the sun, and he is represented biting his tail, and with his body formed into a circle, in order to indicate the ordinary course of this luminary, and under this form it was an emblem of time and eternity. The serpent was also the symbol of medicine, and of the gods which presided over it, as of Apollo and Æsculapius: and this animal was the object of very ancient and general worship, under various appellations and characters. In most of the ancient rites we find some allusion to the serpent, under the several titles of Ob, Ops, Python, &c. This idolatry is alluded to by Moses, (Lev. xx. 27.) The woman at Endor who had a familiar spirit is called Oub, or Ob, and it is interpreted Pythonissa. The place where she resided, says the learned Mr Bryant, seems to have been named from the worship then instituted; for Endor is compounded of *En-ador*, and signifies *fons Pythonis*, "the fountain of light, the oracle of the god Ador, which oracle was probably founded by the Canaanites, and had never been totally suppressed. His pillar was also called *Abbadir*, or *Abadir*, compounded of *ab* and *adir*, and meaning the serpent deity Addir, the same as Adorus.

In the orgies of Bacchus, the persons who partook of the ceremony used to carry serpents in their hands, and with horrid screams call upon Eva! Eva! Eva being, according to the writer just mentioned, the same as epha, or opha, which the Greeks rendered *ophis*, and by it denoted a serpent. These ceremonies and this

Serpent.

Serpent
||
Serpentarius.

this symbolic worship began among the Magi, who were the sons of Chus; and by them they were propagated in various parts. Wherever the Amonians founded any places of worship, and introduced their rites, there was generally some story of a serpent. There was a legend about a serpent at Colchis, at Thebes, and at Delphi; and likewise in other places. The Greeks called Apollo himself Python, which is the same as Opis, Oupis, and Oub.

In Egypt there was a serpent named Thermuthis, which was looked upon as very sacred; and the natives are said to have made use of it as a royal tiara, with which they ornamented the statues of Isis. The kings of Egypt wore high bonnets, terminating in a round ball, and surrounded with figures of asps; and the priests likewise had the representation of serpents upon their bonnets.

Abaddon, or Abaddon, mentioned in the Revelations xx. 2. is supposed by Mr Bryant to have been the name of the Ophite god, with whose worship the world had been so long infected. This worship began among the people of Chaldea, who built the city of Ophis upon the Tigris, and were greatly addicted to divination, and to the worship of the serpent. From Chaldea the worship passed into Egypt, where the serpent deity was called Canoph, Can-eph, and C'aeph. It had also the name of Ob or Oub, and was the same as the Basiliscus or royal serpent, the same as the Thermuthis, and made use of by way of ornament to the statues of their gods. The chief deity of Egypt is said to have been Vulcan, who was styled Opas. He was the same as Osiris, the Sun, and hence was often called Ob-el, or Pytho-sol; and there were pillars sacred to him, with curious hieroglyphical inscriptions bearing the same name; whence among the Greeks, who copied from the Egyptians, every thing gradually tapering to a point was styled obelos, or obeliscus.

As the worship of the serpent began among the sons of Chus, Mr Bryant conjectures, that from thence they were denominated Ethiopians and Aithiopians, from Ath-ope or Ath-opes, the god whom they worshipped, and not from their complexion: the Ethiopes brought these rites into Greece, and called the island where they first established them *Ellopiæ*, *Solis Serpentis insula*, the same with *Eubæa*, or *Oubæa*, i. e. "the serpent island." The same learned writer discovers traces of the serpent worship among the Hyperboreans, at Rhodes, named Ophiussa, in Phrygia, and upon the Hellespont, in the island Cyprus, in Crete, among the Athenians, in the name of Cecrops, among the natives of Thebes in Boeotia, among the Lacedemonians, in Italy, in Syria, &c. and in the names of many places, as well as of the people where the Ophites settled. One of the most early heresies introduced into the Christian church was that of the Ophitæ. Bryant's Analysis of Ancient Mythology, vol. i. p. 43, &c. p. 473, &c.

SERPENT STONES. See CORNU AMMONIS.

SEA-SERPENT. See SEA-Serpent.

SERPENTARIA, SNAKE-ROOT; a species of ARISTOLOCHIA.

SERPENTARIUS, in astronomy, a constellation of the northern hemisphere, called also Ophiuchus, and anciently Æsculapius. The stars in the constellation Serpentarius, in Ptolemy's catalogue, are 29; in Tycho's

15; in Hevelius's 40; in the Britannic catalogue they are 74.

SERPENTINE, in general, denotes any thing that resembles a serpent; hence the worm or pipe of a still, twisted in a spiral manner, is termed a *serpentine worm*.

SERPENTINE Stone, a genus of magnesian earths, of which there are different species: 1. The fibrosus, composed of fibrous and coherent particles. This resembles the asbestos so much that it might be confounded with it, were not the fibres of the serpentine so closely coherent, that they cannot be distinguished when the stone is cut or polished. The fibres themselves are large, and seem to be twisted. There are two varieties, a dark green and a light one; the former from Germany, the latter from Sweden. 2. The zoebnitz serpentine, found near that place, of many different colours, as black, deep green, light green, red, bluish-grey, and white; but the green colour is most predominant. 3. Porcelain earth mixed with iron. It is met with either diffusible in water or indurated. The former is found of a red colour from China and Montmartre. The water-clinkers, imported from some places in Germany, seem to be made of this kind of earth. There are two varieties of the indurated kind, viz. the martial soap-earth, of a red colour, from Jälsberg and other places in Norway, or black from some parts of Sweden. 4. The telgston of the Swedes, the same with the lapis ollaris. It is found in various places of Norway, as light grey, dark grey, whitish-yellow, and dark green. It is employed with great advantage for building fire-places, furnaces, &c. the extremities of the strata being turned towards the fire when it is flinty.

M. Magellan observes, that there is a great variety of colour as well as composition in this kind of stones; it being found either white, green, brown, yellow, light-blue, black, spotted, or streaked with veins of different colours. Its texture is either indistinct, obscurely laminar, or fibrous. The specific gravity is from 2400 to 2650; and it is harder than soap-rock or steatites; though not hard enough to strike fire with steel; being less smooth to the touch than steatites, but susceptible of a good polish, looking like marble; and is often met with in thin semitransparent plates. It melts in a strong heat without addition, and corrodes the crucibles, but hardens in a lower degree of heat. It is slowly and partially soluble in acids, but does not effervesce with them. According to Bayon's analysis, 100 parts of it contain about 41 of flint, or rather mica; 33 of magnesia; 10 of argillaceous earth; 12 of water, and about 3 of iron. That brought from Corsica contains a greater proportion of argil, and a smaller one of flint. The serpentine commonly so called, according to Fabroni, is a true lapis ollaris; but has its name from being variegated with green, yellowish, and brown spots, like the skin of some serpents; great quantities of it are found in Italy and Switzerland, where it is frequently worked into dishes and other vessels.

SERPENTINE verses, are such as begin and end with the same word. As,

Ambo florentes etatibus, Arcades ambo.

SERPENTINE, in the Manege. A horse is said to have a serpentine tongue, if it is always frisking and moving, and sometimes passing over the bit, instead of keeping

Serpicula keeping in the void space, called the liberty of the tongue.

Serratula.

SERPICULA, in botany; a genus of plants belonging to the class of monœcia, and to the order of tetrandia. The male calyx is quadridentate, and the corolla consists of four petals: The female calyx is divided into four parts, and the pericarpium is a tomentose nut. There are two species, the *verticillata* and *repens*.

SERPIGO, in surgery, a kind of herpes, popularly called a *letter* or ringworm. See SURGERY.

SERPULA, in natural history; a genus belonging to the class of vermes, and to the order of testacea. The shell is single, tubular, and adhering to other bodies. The animal which inhabits it is the *terebella*.

SERRANUS (Joannes), or John de Serres, a learned French Protestant, was born about the middle of the sixteenth century. He acquired the Greek and Latin languages at Lausanne, and grew very fond of the philosophy of Aristotle and Plato. On his return to France he studied divinity. He began to distinguish himself in 1572 by his writings, but was obliged to forsake his country after the dreadful massacre of St Bartholomew. He became minister of Nîmes in 1582, but was never regarded as a very zealous Calvinist: he has even been suspected, though without reason, of having actually abjured the Protestant religion. He was one of the four clergymen whom Henry IV. consulted about the Romish religion, and who returned for answer, *that Catholics might be saved*. He wrote afterwards a treatise in order to reconcile the two communions, entitled *De fide Catholica, sive de principiis religionis Christianæ, communi omnium Christianorum consensu, semper et ubique ratis*. This work was disliked by the Catholics, and received with such indignation by the Calvinists of Geneva, that many writers have affirmed that they poisoned the author. It is certain at least that he died at Geneva in 1598, at the age of 50. His principal works are, 1. A Latin translation of Plato, published by Henry Stephens, which owes much of its reputation to the elegance of the Greek copy which accompanies it. 2. A Treatise on the Immortality of the Soul. 3. *De statu religionis et reipublicæ in Francia*. 4. *Mémoire de la 3me guerre civile et derniers troubles de France sous Charles IX. &c.* 5. *Inventaire general de l'Histoire de France, illustré par la conférence de l'Eglise et de l'Empire, &c.* 6. *Recueil de chose memorable avenue en France sous Henri II. François II. Charles IX. Henri III.* These three historical treatises have been justly accused of partiality and passion; faults which it is next to impossible for a contemporary writer to avoid, especially if he bore any part in the transactions which he describes. His style is exceedingly incorrect and inelegant; his mistakes too and misstatements of facts are very numerous.

SERRATED, in general, something indented or notched in the manner of a saw; a term much used in the description of the leaves of plants. See BOTANY.

SERRATULA, SAW-WORT, in botany: A genus of plants belonging to the class of syngenesia, and to the order of polygamia æqualis. In the natural system it is ranged under the 49th order, *Compositæ*. The calyx is subcylindrical, imbricated; the scales of it pointed, but not spinous. There are 15 species: The *tinctoria*, *alpina*, *arvensis*, *coronata*, *japonica*, *falicifolia*, *multiflora*, *noveboracensis*, *præalta*, *glauca*, *squarrosa*, *scariosa*, *spinata*, *amara*, and *centauroides*. The three first species

are British. 1. The *tinctoria* is distinguished by a stem erect and slender, branched at the top, and three feet high. The leaves are smooth, pinnatifid, and serrated: The flowers are purple, in umbels, and terminal. The down of the seed is glossy, with a brown or gold tinge. It grows in woods and wet pastures. It dyes cloth of an exceeding fine yellow colour, which stands well when fixed with alum. Goats eat this plant; horses are not fond of it; cattle, swine, and sheep, leave it untouched. 2. The *alpina*, or mountain saw-wort. The root and stem are woody; the latter being from one to two feet high. The leaves are numerous, triangular, long, pointed, substantial, dark green above, white beneath, and serrated, with round intervals between the teeth, on footstalks. The flowers are purple. The scales of the calyx are very short and downy. It grows on high mountains, and flowers commonly in July or August. 3. The *arvensis*, corn saw-wort, or way-thistle. The stem is generally erect, branched, and two or three feet high. The leaves are sinuated, serrated, and spinous; those above being almost entire. The flowers are of a pale purple; the down is very long. This plant grows in cultivated grounds and by waysides, and flowers in July or August. When burned it yields good ashes for making glass or fixed alkali.

SERRATUS, in anatomy, a name given to several muscles, from their resemblance to a saw. See ANATOMY, *Table of the Muscles*.

SERTORIUS (Quintus), an eminent Roman general; (see SPAIN), under the history of which his exploits are related.

SERTULARIA, in natural history, a genus belonging to the class of vermes, and to the order of zoophyta. The stem is radicated, fibrous, naked, and jointed; the florets are hydræ, and there is one at each joint. This genus comprehends 42 species of corallines.

SERVAL, mountain cat. See FELIS, xvi.

SERVANDONI (John Nicolas), was born at Florence in 1695. He rendered himself famous by his exquisite taste in architecture, and by his genius for decorations, fetes, and buildings. He was employed and rewarded by most of the princes in Europe. He was honoured in Portugal with the order of Christ: In France he was architect and painter to the king, and member of the different academies established for the advancement of these arts. He received the same titles from the kings of Britain, Spain, Poland, and from the duke of Wirtemberg. Notwithstanding these advantages, his want of economy was so great, that he left nothing behind him. He died at Paris in 1766. Paris is indebted to him for many of its ornaments. He made decorations for the theatres of London and Dresden. The French king's theatre, called *la salle des Machines*, was under his management for some time. He was permitted to exhibit shows consisting of simple decorations: Some of these were astonishingly sublime; his "Descent of Æneas into Hell" in particular, and his "Enchanted Forest," are well known. He built and embellished a theatre at Chambor for Mareschal Saxe; and furnished the plan and the model of the theatre royal at Dresden. His genius for fetes was remarkable; he had the management of a great number in Paris, and even in London. He conducted one at Lisbon given on account of a victory gained by the duke of Cumberland. He was employed frequently by the king of Portugal,

Servant. Portugal, to whom he presented several elegant plans and models. The prince of Wales, too, father to the present king, engaged him in his service; but the death of that prince prevented the execution of the designs which had been projected. He presided at the magnificent *fete* given at Vienna on account of the marriage of the archduke Joseph and the Infanta of Parma. But it would be endless to attempt an enumeration of all his performances and exhibitions.

SERVANT, a term of relation, signifying a person who owes and pays obedience for a certain time to another in quality of a master.

As to the several sorts of servants: It was observed, under the article **LIBERTY**, that pure and proper slavery does not, nay cannot, subsist in Britain: such we mean whereby an absolute and unlimited power is given to the master over the life and fortune of the slave. And indeed it is repugnant to reason, and the principles of natural law, that such a state should subsist anywhere. See **SLAVERY**.

The law of England therefore abhors, and will not endure, the existence of slavery within this nation: so that when an attempt was made to introduce it, by statute 1 Edw. VI. c. 3. which ordained, that all idle vagabonds should be made slaves, and fed upon bread, water, or small drink, and refuse-meat; should wear a ring of iron round their necks, arms, or legs; and should be compelled, by beating, chaining, or otherwise, to perform the work assigned them, were it ever so vile; the spirit of the nation could not brook this condition, even in the most abandoned rogues; and therefore this statute was repealed in two years afterwards. And now it is laid down, that a slave or negro, the instant he lands in Britain, becomes a freeman; that is, the law will protect him in the enjoyment of his person and his property. Yet, with regard to any right which the master may have lawfully acquired to the perpetual service of John or Thomas, this will remain exactly in the same state as before: for this is no more than the same state of subjection for life which every apprentice submits to for the space of seven years, or sometimes for a longer term. Hence, too, it follows, that the infamous and unchristian practice of withholding baptism from negro-servants, lest they should thereby gain their liberty, is totally without foundation, as well as without excuse. The law of England acts upon general and extensive principles: it gives liberty, rightly understood, that is, protection, to a Jew, a Turk, or a Heathen, as well as to those who profess the true religion of Christ; and it will not dissolve a civil obligation between master and servant, on account of the alteration of faith in either of the parties; but the slave is entitled to the same protection in England before as after baptism; and, whatever service the Heathen negro owed of right to his American master, by general, not by local law, the same (whatever it be) he is bound to render when brought to England and made a Christian.

1. The first sort of servants, therefore, acknowledged by the laws of England, are *menial servants*; so called from being *intra mania*, or domestics. The contract between them and their masters arises upon the hiring. If the hiring be general, without any particular time limited, the law construes it to be a hiring for a year; upon a principle of natural equity, that the servant shall serve and the master maintain him, throughout all the

revolutions of the respective seasons; as well when there is work to be done, as when there is not: but the contract may be made for any larger or smaller term. All single men between 12 years old and 60, and married ones under 30 years of age, and all single women between 12 and 40, not having any visible livelihood, are compellable by two justices to go out to service in husbandry or certain specific trades, for the promotion of honest industry; and no master can put away his servant, or servant leave his master, after being so retained, either before or at the end of his term, without a quarter's warning; unless upon reasonable cause, to be allowed by a justice of the peace: but they may part by consent, or make a special bargain.

2. Another species of servants are called *apprentices*, (from *apprendre*, to learn); and are usually bound for a term of years, by deed indented or indentures, to serve their masters, and be maintained and instructed by them. This is usually done to persons of trade, in order to learn their art and mystery; and sometimes very large sums are given with them as a premium for such their instruction: but it may be done to husbandmen, nay, to gentlemen and others. And children of poor persons may be apprenticed out by the overseers, with consent of two justices, till 24 years of age, to such persons as are thought fitting; who are also compellable to take them: and it is held, that gentlemen of fortune, and clergymen, are equally liable with others to such compulsion: for which purposes our statutes have made the indentures obligatory, even though such parish-apprentice be a minor. Apprentices to trades may be discharged on reasonable cause, either at the request of themselves or masters, at the quarter-sessions, or by one justice, with appeal to the sessions; who may, by the equity of the statute, if they think it reasonable, direct restitution of a rateable share of the money given with the apprentice: and parish-apprentices may be discharged in the same manner by two justices. But if an apprentice, with whom less than 10 pounds hath been given, runs away from his master, he is compellable to serve out his time of absence, or make satisfaction for the same, at any time within seven years after the expiration of his original contract. See **APPRENTICE** and **APPRENTICESHIP**.

3. A third species of servants are *labourers*, who are only hired by the day or the week, and do not live *intra mania*, as part of the family; concerning whom the statutes before-cited have made many very good regulations; 1. Directing that all persons who have no visible effects may be compelled to work; 2. Defining how long they must continue at work in summer and in winter; 3. Punishing such as leave or desert their work; 4. Empowering the justices at sessions, or the sheriff of the county, to settle their wages: and, 5. Inflicting penalties on such as either give or exact more wages than are so settled.

4. There is yet a fourth species of servants, if they may be so called, being rather in a superior, a ministerial, capacity; such as *stewards*, *factots*, and *bailiffs*; whom, however, the law considers as servants *pro tempore*, with regard to such of their acts as affect their master's or employer's property.

As to the manner in which this relation affects the master, the servant himself, or third parties, see the article **MASTER and Servant**.

Servetists,
Servetus.

For the condition of servants by the law of Scotland, see LAW.

SERVETISTS, a name given to the modern Antitrinitarians, from their being supposed to be the followers of Michael Servetus; who, in the year 1553, was burnt at Geneva, together with his books.

SERVETUS (Michael), a learned Spanish physician, was born at Villaneuva, in Arragon, in 1509. He was sent to the university of Toulouse to study the civil law. The Reformation, which had awakened the most polished nations of Europe, directed the attention of thinking men to the errors of the Romish church and to the study of the Scriptures. Among the rest Servetus applied to this study. From the love of novelty, or the love of truth, he carried his inquiries far beyond the other reformers, and not only renounced the false opinions of the Roman Catholics, but went so far as to question the doctrine of the Trinity. Accordingly, after spending two or three years at Toulouse, he determined to go into Germany to propagate his new opinions, where he could do it with most safety. At Basil he had some conferences with Oecolampadius. He went next to Strasburg to visit Bucer and Capito, two eminent reformers of that town. From Strasburg he went to Hugenau, where he printed a book, intitled *De Trinitatis Erroribus*, in 1531. The ensuing year he published two other treatises on the same subject: in an advertisement to which, he informs the reader that it was not his intention to retract any of his former sentiments, but only to state them in a more distinct and accurate manner. To these two publications he had the courage to put his name, not suspecting that in an age when liberty of opinion was granted, the exercise of that liberty would be attended with danger. After publishing these books, he left Germany, probably finding his doctrines not so cordially received as he expected. He went first to Basil, and thence to Lyons, where he lived two or three years. He then removed to Paris, where he studied medicine under Sylvius, Fernelius, and other professors, and obtained the degree of master of arts and doctor of medicine. His love of controversy involved him in a serious dispute with the physicians of Paris; and he wrote an Apology, which was suppressed by an edict of the Parliament. The misunderstanding which this dispute produced with his colleagues, and the chagrin which so unfavourable a termination occasioned, made him leave Paris in disgust. He settled two or three years in Lyons, and engaged with the Frellons, eminent printers of that age, as a corrector to their presses. At Lyons he met with Pierre Palmier, the archbishop of Vienne, with whom he had been acquainted at Paris. That Prelate, who was a great encourager of learned men, pressed him to accompany him to Vienne, offering him at the same time an apartment in his palace. Servetus accepted the offer, and might have lived a tranquil and happy life at Vienne, if he could have confined his attention to medicine and literature. But the love of controversy, and an eagerness to establish his opinions, always possessed him. At this time Calvin was at the head of the reformed church at Geneva. With Servetus he had been acquainted at Paris, and had there opposed his opinions. For 16 years Calvin kept up a correspondence with him, endeavouring to reclaim him from his errors. Servetus had read the works of Calvin, but did not think they merited the

high eulogies of the reformers, nor were they sufficient to convince him of his errors. He continued, however, to consult him; and for this purpose sent from Lyons to Geneva three questions which respected the divinity of Jesus Christ, regeneration, and the necessity of baptism. To these Calvin returned a civil answer. Servetus treated the answer with contempt, and Calvin replied with warmth. From reasoning he had recourse to abusive language; and this produced a polemical hatred, the most implacable disposition in the world. Calvin having obtained some of Servetus's papers, by means, it is said, not very honourable, sent them to Vienne along with the private letters which he had received in the course of their correspondence. The consequence was, that Servetus was arrested; but having escaped from prison, he resolved to retire to Naples, where he hoped to practise medicine with the same reputation which he had so long enjoyed at Vienne. He imprudently took his route through Geneva, though he could not but know that Calvin was his mortal enemy. Calvin informed the magistrates of his arrival; Servetus was apprehended, and appointed to stand trial for heresy and blasphemy. It was a law at Geneva, that every accuser should surrender himself a prisoner, that if the charge should be found false, the accuser should suffer the punishment in which he meant to involve the accused. Calvin not choosing to go to prison himself, sent one of his domestics to present the impeachment against Servetus. The articles brought against him were collected from his writings with great care; an employment which took up three days. One of these articles was, "that Servetus had denied that Judæa was a beautiful, rich, and fertile country; and affirmed, on the authority of travellers, that it was poor, barren, and disagreeable." He was also charged with "corrupting the Latin Bible, which he was employed to correct at Lyons, by introducing impertinent, trifling, whimsical, and impious notes of his own through every page." But the main article, which was certainly fatal to him, was, "that in the person of Mr Calvin, minister of the word of God in the church of Geneva, he had defamed the doctrine that is preached, uttering all imaginable injurious, blasphemous words against it."

Calvin visited Servetus in prison, and had frequent conferences with him; but finding that, in opposition to all the arguments he could employ, the prisoner remained inflexible in his opinions, he left him to his fate. Before sentence was passed, the magistrates of Geneva consulted the ministers of Bale, of Bern, and Zurich; and, as another account informs us, the magistrates of the Protestant Cantons of Switzerland. And to enable them to form a judgment of the criminality of Servetus, they transmitted the writings of Calvin, with his answers. The general opinion was, that Servetus ought to be condemned to death for blasphemy. He was accordingly sentenced to be burnt alive on the 27th of October 1553. As he continued alive in the midst of the flames more than two hours, it is said, finding his torment thus protracted, he exclaimed, "Unhappy wretch that I am! Will the flames be insufficient to terminate my misery! What then! Will the hundred pieces of gold, and the rich collar which they took from me, not purchase wood enough to consume me more quickly! "Though the sentence of death was passed against Servetus by the magistrates of Geneva, with the

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approbation of a great number of the magistrates and ministers of Switzerland, yet it is the opinion of most historians that this dreadful sentence was imposed at the instigation of Calvin. This act of severity for holding a speculative opinion, however erroneous and absurd, has left a stain on the character of this illustrious reformer, which will attend the name of Calvin as long as history shall preserve it from oblivion. The address and art which he used in apprehending Servetus, his inhumanity to him during his trial, his dissimulation and malevolence after his condemnation, prove that he was as much influenced by personal hatred as by a desire to support the interest of religion, though probably, during the trial, Calvin believed he was performing a very pious action. This intolerant spirit of Calvin and the magistrates of Geneva gave the Roman Catholics a favourable opportunity to accuse the Protestants of inconsistency in their principles, which they did not fail to embrace. "How could the magistrates (says the author of the *Dictionnaire des Heresies*), who acknowledged no infallible interpretation of the Scriptures, condemn Servetus to death because he explained them differently from Calvin; since every man has the privilege to expound the Scripture, according to his own judgment, without having recourse to the church? It is a great injustice to condemn a man because he will not submit to the judgment of an enthusiast, who may be wrong as well as himself."

Servetus was a man of great acuteness and learning, and well versed in the arts and sciences. In his own profession his genius exerted itself with success. In his tract intitled *Christianismi Restitutio*, published in 1553, he remarks, that the whole mass of blood passes through the lungs by the pulmonary artery and vein, in opposition to the opinion which was then universally entertained, that the blood passes through the partition which divides the two ventricles. This was an important step towards the discovery of the circulation of the blood.

His works consist of Controversial Writings concerning the Trinity; an edition of Pagninus's Version of the Bible, with a preface and notes, published under the name of Michael Villanovanus; an Apology to the Physicians of Paris; and a book intitled *Ratio Sympliciorum*. Mosheim has written in Latin a History of the Heresy and Misfortunes of Servetus, which was published at Helmstadt, in 4to, in 1728. From the curious details which it gives it is extremely interesting.

SERVIA, a province of Turkey in Europe, bounded on the north by the rivers Danube and Save, which separate it from Hungary; on the east, by Bulgaria; on the west, by Bosnia; and on the south, by Albania and Macedonia. It is about 190 miles in length from east to west; 95 in breadth from north to south; and is divided into four sangiacates. Two of these were ceded to the Christians in 1718, who united them into one. This continued till 1739, when the Turks were victorious; and then they were abandoned to the Turks by the treaty of Belgrade. Belgrade is the capital town.

SERVICE, in law, is a duty which a tenant, on account of his fee, owes to his lord.

There are many divisions of services; as, 1. Into personal, where something is to be done by the tenant in person, as homage and fealty. 2. Real, such as wards, marriages, &c. 3. Accidental, including heriots, reliefs, and the like. 4. Entire, where, on the

alienation of any part of the lands by a tenant, the services become multiplied. 5. Frank-service, which was performed by freemen, who were not obliged to perform any base service, but only to find a man and horse to attend the lord into the army or to court. 6. Knight's service, by which lands were anciently held of the king, on paying homage, service in war, &c.

As in every free and well regulated society there must be a diversity of ranks, there must be a great number of persons employed in service, both in agriculture and domestic affairs. In this country, service is a contract into which the servant voluntarily enters; and the master's authority extends no farther than to the performance of that species of labour for which the agreement was made.

"The treatment of servants (says that respectable moralist Mr Paley), as to diet, discipline, and accommodation, the kind and quantity of work to be required of them, the intermission, liberty, and indulgence to be allowed them, must be determined in a great measure by custom; for where the contract involves so many particulars, the contracting parties express a few perhaps of the principal, and by mutual understanding refer the rest to the known custom of the country in like cases. Paley's Moral and Political Philosophy, p. 139.

"A servant is not bound to obey the unlawful commands of his master; to minister, for instance, to his unlawful pleasures; or to assist him in unlawful practices in his profession; as in smuggling or adulterating the articles which he deals in. For the servant is bound by nothing but his own promise; and the obligation of a promise extends not to things unlawful.

"For the same reason, the master's authority does not justify the servant in doing wrong; for the servant's own promise, upon which that authority is founded, would be none.

"Clerks and apprentices ought to be employed entirely in the profession or trade which they are intended to learn. Instruction is their wages; and to deprive them of the opportunities of instruction, by taking up their time with occupations foreign to their business, is to defraud them of their wages.

"The master is responsible for what a servant does in the ordinary course of his employment; for it is done under a general authority committed to him, which is in justice equivalent to a specific direction. Thus, if I pay money to a banker's clerk, the banker is accountable: but not if I had paid it to his butler or his footman, whose business it is not to receive money. Upon the same principle, if I once send a servant to take up goods upon credit, whatever goods he afterwards takes up at the same shop, so long as he continues in my service, are justly chargeable to my account.

"The law of this country goes great lengths in intending a kind of concurrence in the master, so as to charge him with the consequences of his servant's conduct. If an innkeeper's servant rob his guests, the innkeeper must make restitution; if a farrier's servant lame your horse, the farrier must answer for the damage; and still farther, if your coachman or carter drive over a passenger in the road, the passenger may recover from you a satisfaction for the hurt he suffers. But these determinations stand, I think, rather upon the authority of the law, than any principle of natural justice."

There is a grievance which has long and justly been

Service.

been complained of, the giving of good characters to bad servants. This is perhaps owing to carelessness, to a desire of getting rid of a bad servant, or to mistaken compassion. But such carelessness is inexcusable. When a man gives his sanction to the character of a bad servant, he ought to reflect on the nature and consequences of what he is doing. He is giving his name to a falsehood; he is deceiving the honest man who confides in his veracity; and he is deliberately giving a knave an opportunity of cheating an honest man. To endeavour to get quit of a bad servant in this way, is surely not less criminal than concealing the faults and disadvantages of an estate which is advertised for sale, and ascribing to it advantages which it does not possess. In this case, we know the sale would be reduced, and the advertiser disgraced. Many masters give characters to servants out of compassion; but it is to this mistaken compassion that the disorderly behaviour of servants is perhaps principally owing: for if the punishment of dishonesty be only a change of place (which may be a reward instead of a punishment), it ceases to be a servant's interest to be true to his trust.

We have said above that a master's authority over his servant extends no farther than the terms of contract; by which we meant, that a master could give no unreasonable orders to his servant, or such as was inconsistent with the terms of contract. But the relation between a master and servant is certainly closer than the mere terms of a contract: it is a moral as well as a legal relation. A master of a family ought to superintend the morals of his servants, and to restrain them from vices. This he may do by his example, by his influence, and authority. Indeed every man possessed of authority is guilty of criminal negligence if he does not exert his authority for promoting virtue in his inferiors; and no authority is so well adapted for this purpose as that of masters of families, because none operates with an influence so immediate and constant. It is wonderful how much good a nobleman or gentleman of fortune can do to his domestics by attending to their morals; and every master may be a blessing to individuals and to society, by exerting prudently that influence which his situation gives him over the conduct of his servant.

Choral Service, in church-history, denotes that part of religious worship which consists in chanting and singing. The advocates for the high antiquity of singing, as a part of church-music, urge the authority of St Paul in its favour (Ephes. chap. v. ver. 19. and Colos. chap. iii. ver. 16). On the authority of which passages it is asserted, that songs and hymns were, from the establishment of the church, sung in the assemblies of the faithful; and it appears from undoubted testimony, that singing, which was practised as a sacred rite among the Egyptians and Hebrews, at a very early period, and which likewise constituted a considerable part of the religious ceremonies of the Greeks and Romans, made a part of the religious worship of Christians, not only before churches were built, and their religion established by law, but from the first profession of Christianity. However, the era from whence others have dated the introduction of music into the service of the church, is that period during which Leontius governed the church of Antioch, i. e. between the year of Christ 347 and 356. See ANTIPHONY.

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From Antioch the practice soon spread through the other churches of the East; and in a few ages after its first introduction into the divine service, it not only received the sanction of public authority, but those were forbid to join in it who were ignorant of music. A canon to this purpose was made by the council of Laodicea, which was held about the year 372; and Zonas informs us, that these canonical singers were reckoned a part of the clergy. Singing was introduced into the western churches by St Ambrose about the year 374, who was the institutor of the Ambrosian chant established at Milan about the year 386; and Eusebius (lib. ii. cap. 17.) tells us, that a regular choir, and method of singing the service, were first established, and hymns used, in the church at Antioch during the reign of Constantine, and that St Ambrose, who had long resided there, had his melodies thence. This was about 230 years afterwards amended by pope Gregory the Great, who established the Gregorian chant; a plain, unisonous kind of melody, which he thought consistent with the gravity and dignity of the service to which it was to be applied. This prevails in the Roman church even at this day: it is known in Italy by the name of *canto fermo*; in France by that of *plain chant*; and in Germany and most other countries by that of the *cantus Gregorianus*. Although no satisfactory account has been given of the specific difference between the Ambrosian and Gregorian chants, yet all writers on this subject agree in saying, that St Ambrose only used the four authentic modes, and that the four plagal were afterwards added by St Gregory. Each of these had the same final, or key-note, as its relative authentic; from which there is no other difference, than that the melodies in the four authentic or principal modes are generally confined within the compass of the eight notes above the key-note, and those in the four plagal or relative modes, within the compass of the eight notes below the fifth of the key. See MODE.

Ecclesiastical writers seem unanimous in allowing that Pope Gregory, who began his pontificate in 590, collected the musical fragments of such ancient psalms and hymns as the first fathers of the church had approved and recommended to the first Christians; and that he selected, methodized, and arranged them in the order which was long continued at Rome, and soon adopted by the chief part of the western church. Gregory is also said to have banished from the church the *canto figurato*, as too light and dissolute; and it is added, that his own chant was called *canto fermo*, from its gravity and simplicity.

It has been long a received opinion, that the ecclesiastical tones were taken from the reformed modes of Ptolemy; but Dr Burney observes, that it is difficult to discover any connection between them, except in their names; for their number, upon examination, is not the same; those of Ptolemy being seven, the ecclesiastical eight; and indeed the Greek names given to the ecclesiastical modes do not agree with those of Ptolemy in the single instance of key, but with those of higher antiquity. From the time of Gregory to that of Guido, there was no other distinction of keys than that of authentic and plagal; nor were any semitones used but those from E to F, B to C, and occasionally A to B b.

With respect to the music of the primitive church, it may

Service. may be observed, that though it consisted in the singing of psalms and hymns, yet it was performed in many different ways; sometimes the psalms were sung by one person alone, whilst the rest attended in silence; sometimes they were sung by the whole assembly; sometimes alternately, the congregation being divided into separate choirs; and sometimes by one person, who repeated the first part of the verse, the rest joining in the close of it. Of the four different methods of singing now recited, the second and third were properly distinguished by the names of *symphony* and *antiphony*; and the latter was sometimes called *responsorio*, in which women were allowed to join. St Ignatius, who, according to Socrates (lib. vi. cap. 8.), conversed with the apostles, is generally supposed to have been the first who suggested to the primitive Christians in the East the method of singing hymns and psalms alternately, or in dialogue; and the custom soon prevailed in every place where Christianity was established; though Theodoret in his history (lib. ii. cap. 24.) tells us, that this manner of singing was first practised at Antioch. It likewise appears, that almost from the time when music was first introduced into the service of the church, it was of two kinds, and consisted in a gentle inflection of the voice, which they termed plain song, and a more elaborate and artificial kind of music, adapted to the hymns and solemn offices contained in its ritual; and this distinction has been maintained even to the present day.

Although we find a very early distinction made between the manner of singing the hymns and chanting the psalms, it is, however, the opinion of the learned Martini, that the music of the first five or six ages of the church consisted chiefly in a plain and simple chant of unisons and octaves, of which many fragments are still remaining in the *canto fermo* of the Romish missals. For with respect to music in parts, as it does not appear, in these early ages, that either the Greeks or Romans were in possession of harmony or counterpoint, which has been generally ascribed to Guido, a monk of Arezzo in Tuscany, about the year 1022, though others have traced the origin of it to the eighth century, it is in vain to seek it in the church. The choral music, which had its rise in the church of Antioch, and from thence spread through Greece, Italy, France, Spain, and Germany, was brought into Britain by the singers who accompanied Austin the monk, when he came over, in the year 596, charged with a commission to convert the inhabitants of this country to Christianity. Bede tells us, that when Austin and the companions of his mission had their first audience of king Ethelbert, in the isle of Thanet, they approached him in procession, singing litanies; and that afterwards, when they entered the city of Canterbury, they sung a litany, and at the end of it Allelujah. But though this was the first time the Anglo-Saxons had heard the Gregorian chant, yet Bede likewise tells us, that our British ancestors had been instructed in the rites and ceremonies of the Gallican church by St Germanus, and heard him sing Allelujah many years before the arrival of St Austin. In 680, John, præcentor of St Peter's in Rome, was sent over by pope Agatho to instruct the monks of Weremouth in the art of singing; and he was prevailed upon to open schools for teaching music in other places in Northumberland. Benedict Biscop, the preceptor of Bede, Adrian the monk, and many others, contributed to disseminate

the knowledge of the Roman chant. At length the successors of St Gregory, and of Austin his missionary, having established a school for ecclesiastical music at Canterbury, the rest of the island was furnished with masters from that seminary. The choral service was first introduced in the cathedral church of Canterbury; and till the arrival of Theodore, and his settlement in that see, the practice of it seems to have been confined to the churches of Kent; but after that, it spread over the whole kingdom; and we meet with records of very ample endowments for the support of this part of public worship. This mode of religious worship prevailed in all the European churches till the time of the Reformation: the first deviation from it is that which followed the Reformation by Luther, who, being himself a lover of music, formed a liturgy, which was a musical service, contained in a work entitled *Psalmodia*, h. e. *Cantica sacra Veteris Ecclesie selecta*, printed at Norimberg in 1553, and at Wittemberg in 1561. But Calvin, in his establishment of a church at Geneva, reduced the whole of divine service to prayer, preaching, and singing; the latter of which he restrained. He excluded the offices of the antiphon, hymn, and motet, of the Romish service, with that artificial and elaborate music to which they were sung; and adopted only that plain metrical psalmody, which is now in general use among the reformed churches, and in the parochial churches of our own country. For this purpose he made use of Marot's version of the Psalms, and employed a musician to set them to easy tunes only of one part. In 1553, he divided the Psalms into pauses or small portions, and appointed them to be sung in churches. Soon after they were bound up with the Geneva catechism; from which time the Catholics, who had been accustomed to sing them, were forbid the use of them, under a severe penalty. Soon after the Reformation commenced in England, complaints were made by many of the dignified clergy and others of the intricacy and difficulty of the church-music of those times: in consequence of which it was once proposed, that organs and curious singing should be removed from our churches. Latimer, in his diocese of Worcester, went still farther, and issued injunctions to the prior and convent of St Mary, forbidding in their service all manner of singing. In the reign of Edward VI. a commission was granted to eight bishops, eight divines, eight civilians, and eight common lawyers, to compile a body of such ecclesiastical laws as should in future be observed throughout the realm. The result of this compilation was a work first published by Fox the martyrologist, in 1571, and afterwards in 1640, under the title of *Reformatio Legum Ecclesiasticarum*. These 32 commissioners, instead of reprobating church-music, merely condemned figurative and operose music, or that kind of singing which abounded with fugues, responsive passages, and a commixture of various and intricate proportions; which, whether extemporary or written, is by musicians termed *descant*. However, notwithstanding the objections against choral music, and the practice of some of the reformed churches, the compilers of the English liturgy in 1548, and the king himself, determined to retain musical service. Accordingly the statute 2 & 3 Edw. VI. cap. 1. though it contains no formal obligation on the clergy, or others, to use or join in either vocal or instrumental music in the common prayer, does clearly recognise the practice of singing;

Service.

Service
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Serum.

and in less than two years after the compiling of King Edward's liturgy, a formula was composed, which continues, with scarce any variation, to be the rule for choral service even at this day. The author of this work was John Marbecke, or Marbeike; and it was printed by Richard Grafton, in 1550, under the title of the Book of Common Prayer, noted. Queen Mary laboured to re-establish the Romish choral service; but the accession of Elizabeth was followed by the act of uniformity; in consequence of which, and of the queen's injunctions, the Book of Common Prayer, noted by Marbecke, was considered as the general formula of choral service. In 1560, another musical service, with some additions and improvements, was printed by John Day; and in 1565, another collection of offices, with musical notes. Many objections were urged by Cartwright and other Puritans against the form and manner of cathedral service, to which Hooker replied in his Ecclesiastical Polity. In 1664, the statutes of Edward VI. and Elizabeth, for uniformity in the Common Prayer, were repealed; and the Directory for Public Worship, which allows only of the singing of psalms, established. But upon the restoration of Charles II. choral service was again revived, and has since uniformly continued. See on this subject Hawkins's History of Music, vol. i. p. 404. vol. ii. p. 264. vol. iii. p. 58—468, &c. vol. iv. p. 44—347.

SERVICE-Tree. See SORBUS.

SERVITES, a religious order in the church of Rome, founded about the year 1233, by seven Florentine merchants, who, with the approbation of the bishop of Florence, renounced the world, and lived together in a religious community on mount Senar, two leagues from that city.

SERVITOR, in the university of Oxford, a student who attends on another for his maintenance and learning. See SIZAR.

SERVITUDE, the condition of a servant, or rather slave.

Under the declension of the Roman empire, a new kind of servitude was introduced, different from that of the ancient Romans: it consisted in leaving the lands of subjugated nations to the first owners, upon condition of certain rents, and servile offices, to be paid in acknowledgment. Hence the names of *servi censiti*, *ascriptitii*, and *addicti glebæ*; some whereof were taxable at the reasonable discretion of the lord; others at a certain rate agreed on; and others were mainmortal, who, having no legitimate children, could not make a will to above the value of five pence, the lord being heir of all the rest; and others were prohibited marrying, or going to live out of the lordship. Most of these services existed lately in France; but they were long ago abolished in England. Such, however, was the original of our tenures, &c. See SLAVE.

SERVITUDE, in Scots law. See LAW, Part III. Sect. ix.

SERVIUS (Maurus Honoratus), a celebrated grammarian and critic of antiquity, who flourished about the time of Arcadius and Honorius; now chiefly known by his Commentaries on Virgil. There is also extant a piece of Servius upon the feet of verses and the quantity of syllables, called *Centimetrum*.

SERUM, a thin, transparent, saltish liquor, which

makes a considerable part of the mass of blood. See ANATOMY, n° 126. and BLOOD. Sesamei.
dea,
Sesamum.

SESAMOIDEA ossa, certain small bones somewhat resembling the seeds of sesamum, whence their name. They are placed at the under part of the bones of the last joints of the fingers and toes.

SESAMUM, OILY GRAIN, in botany: A genus of plants belonging to the class of didynamia, and to the order of angiospermia; and in the natural system ranging under the 20th order, *Lurida*. The calyx is divided into five parts. The corolla is campanulated, the tube of which is nearly the length of the calyx; the throat is inflated, and very large; the border is divided into five parts, four of which are spreading and nearly equal; the fifth is the lowest and largest. There are four filaments, and the rudiments of a fifth. The stigma is lanceolated, and the capsule has four cells. There are only two species, the *orientale* and *indicum*. 1. The *orientale* has ovate, oblong, entire leaves. It is an annual, and grows naturally on the coast of Malabar and in the island of Ceylon; rising with an herbaceous four-cornered stalk, two feet high, sending out a few short side-branches; the leaves are oblong, oval, a little hairy, and stand opposite. The flowers terminate the stalks in loose spikes; they are small, of a dirty white colour, shaped somewhat like those of the fox-glove. After the flowers are past, the germen turns to an oval acute-pointed capsule with four cells, filled with oval compressed seeds, which ripen in autumn. 2. The *indicum*, with trifid lower leaves, grows naturally in India: this is also an annual plant; the stalk rises taller than that of the former; the lower leaves are cut into three parts, which is the only difference between them.

The first sort is frequently cultivated in all the eastern countries, and also in Africa, as a pulse; and of late years the seeds have been introduced into Carolina by the African negroes, where they succeed extremely well. The inhabitants of that country make an oil from the seed, which will keep good many years, without having any rancid smell or taste, but in two years become quite mild; so that when the warm taste of the seed, which is in the oil when first drawn, is worn off, they use it as a salad-oil, and for all the purposes of sweet oil. The seeds of this plant are also used by the negroes for food; which seeds they parch over the fire, and then mix them with water, and stew other ingredients with them, which makes an hearty food. Sometimes a sort of pudding is made of these seeds, in the same manner as with millet or rice, and is by some persons esteemed, but is rarely used for these purposes in Europe. This is called *benny* or *banney* in Carolina. In England these plants are preserved in botanic gardens as curiosities. Their seeds must be sown in the spring upon a hot-bed; and when the plants are come up, they must be transplanted into a fresh hot-bed to bring them forward. After they have acquired a tolerable degree of strength, they should be planted into pots, and plunged into another hot-bed, managing them as hath been directed for amaranths; for if these plants are not thus brought forward in the former part of the summer, they will not produce good seeds in this country.

From nine pounds of this seed which came from Carolina,

Seseli
||
Session.

rolina, there were upwards of two quarts of oil drawn, which is as great a quantity as hath been obtained from any vegetable whatever. This might occasion its being called the *oily grain*.

SESELI, MEADOW SAXIFRAGE, in botany: A genus of plants belonging to the class of pentandria, and to the order of digynia; and in the natural system ranging under the 45th order, *Umbellatae*. The umbels are globular; the involucre consists of one or two leaflets; the fruit is egg-shaped and streaked. There are 11 species, the *pimpinelloides*, *montanum*, *glaucum*, *annuum*, *ammoides*, *tortuosum*, *turbith*, *hyppomarathrum*, *pyrenaeum*, *saxifragum*, and *elatum*. The *montanum* grows naturally in France and Italy; the *glaucum* is a native of France; the *ammoides* and *tortuosum* grow in the south of Europe; and the *hyppomarathrum* is a native of Austria.

SESOSTRIS, king of Egypt. See EGYPT, p. 368.

SESQUI, a Latin particle, signifying a whole and a half; which, joined with *altera*, *terza*, *quarta*, &c. is much used in the Italian music to express a kind of ratios, particularly several species of triples.

SESQUI-*Alterate*, in geometry and arithmetic, is a ratio between two lines, two numbers, or the like, where one of them contains the other once, with the addition of a half.

Thus 6 and 9 are in a sesqui-alterate ratio; since 9 contains 6 once, and 3, which is half of 6, over; and 20 and 30 are in the same; as 30 contains 20, and half 20 or 10.

SESQUI-*Duplicate* ratio, is when of two terms the greater contains the less twice, and half the less remains; as 15 and 6; 50 and 20.

SESQUI-*Tertional* proportion, is when any number or quantity contains another once and one third.

SESSILE, among botanists. See BOTANY.

SESSION, in general, denotes each sitting or assembly of a council, &c.

SESSION of Parliament, is the season or space from its meeting to its prorogation. See PARLIAMENT.

Kirk-SESSION, the name of a petty ecclesiastical court in Scotland. See KIRK-Session.

SESSIONS for weights and measures. In London, four justices from among the mayor, recorder, and aldermen (of whom the mayor or recorder is to be one), may hold a session to inquire into the offences of selling by false weights and measures, contrary to the statutes; and to receive indictments, punish offenders, &c. Char. king Charles I.

Court of SESSION. See LAW, Part III. Sect. ii.

Court of Quarter-SESSIONS, an English court that must be held in every county once in every quarter of a year; which, by statute 2 Hen. V. c. 4. is appointed to be in the first week after Michaelmas-day, the first week after the epiphany, the first week after the close of Easter, and in the week after the translation of St Thomas the martyr, or the 7th of July. It is held before two or more justices of the peace, one of which must be of the quorum. The jurisdiction of this court, by 34 Edw. III. c. 1. extends to the trying and determining all felonies and trespasses whatsoever: though they seldom, if ever, try any greater offence than small felonies within the benefit of clergy; their commission providing, that if any case of difficulty arises, they shall not pro-

ceed to judgment, but in the presence of one of the justices of the courts of king's-bench or common-pleas, or one of the judges of assize: and therefore murders, and other capital felonies, are usually remitted for a more solemn trial to the assizes. They cannot also try any new-created offence, without express power given them by the statute which creates it. But there are many offences and particular matters which, by particular statutes, belong properly to this jurisdiction, and ought to be prosecuted in this court; as, the smaller misdemeanors against the public or commonwealth; not amounting to felony; and especially offences relating to the game, highways, alehouses, bastard children, the settlement and provision for the poor, vagrants, servants wages, and Popish recusants. Some of these are proceeded upon by indictment: others in a summary way, by motion, and order thereupon; which order may for the most part, unless guarded against by particular statutes, be removed into the court of king's-bench by writ of *certiorari facias*, and be there either quashed or confirmed. The records or rolls of the sessions are committed to the custody of a special officer, denominated *custos rotulorum*, who is always a justice of the quorum; and among them of the quorum (saith Lambard) a man for the most part especially picked out, either for wisdom, countenance, or credit. The nomination of the *custos rotulorum* (who is the principal officer in the county, as the lord-lieutenant is chief in military command) is by the king's sign-manual: and to him the nomination of the clerk of the peace belongs; which office he is expressly forbidden to sell for money.

In most corporation-towns there are quarter-sessions kept before justices of their own, within their respective limits; which have exactly the same authority as the general quarter-sessions of the county, except in a very few instances; one of the most considerable of which is the matter of appeals from orders of removal of the poor, which, though they be from the orders of corporation-justices, must be to the sessions of the county, by statute 8 and 9 W. III. c. 30. In both corporations and counties at large, there is sometimes kept a special or petty session, by a few justices, for dispatching smaller business in the neighbourhood between the times of the general sessions; as for licensing alehouses, passing the account of parish-officers, and the like.

SESTERCE, SESTERTIUS, a silver coin, in use among the ancient Romans, called also simply *nummus*, and sometimes *nummus sestertius*. The sestertius was the fourth part of the denarius, and originally contained two asses and a half. It was at first denoted by LLS; the two L's signifying two libræ, and the S half. But the librarii, afterwards converting the two L's into an H, expressed the sestertius by HS. The word *sestertius* was first introduced by way of abbreviation for *semistertius*, which signifies two, and a half of a third, or, literally, only half a third; for in expressing half a third, it was understood that there were two before.

Some authors make two kinds of sesterces; the less called *sestertius*, in the masculine gender; and the great one, called *sestertium*, in the neuter: the first, that we have already described; the latter containing a thousand of the other. Others will have any such distinction of great and little sesterces unknown to the Romans: *sestertius*, say they, was an adjective, and signified as *sestertius*,

Session,
Sesterce.

tius,

Sesterce. *tius*, or two asses and a half; and when used in the plural, as in *quingenta sestertium*, or *sestertia*, it was only by way of abbreviation, and there was always understood *centena, millia, &c.*

This matter has been accurately stated by Mr Raper, in the following manner. The substantive to which *sestertius* referred is either *as*, or *pondus*; and *sestertius as* is two asses and a half; *sestertium pondus*, two pondera and a half, or two hundred and fifty denarii. When the denarius passed for ten asses, the *sestertius* of two asses and a half was a quarter of it; and the Romans continued to keep their accounts in these *sesterces* long after the denarius passed for sixteen asses; till, growing rich, they found it more convenient to reckon by quarters of the denarius, which they called *nummi*, and used the words *nummus* and *sestertius* indifferently, as synonymous terms, and sometimes both together, as *sestertius nummus*; in which case the word *sestertius*, having lost its original signification, was used as a substantive; for *sestertius nummus* was not two *nummi* and a half, but a single *nummus* of four asses. They called any sum under two thousand *sesterces* so many *sestertii* in the masculine gender; two thousand *sesterces* they called *duo* or *bina sestertia*, in the neuter; so many quarters making five hundred denarii, which was twice the *sestertium*; and they said *dena, vicena, &c. sestertia*, till the sum amounted to a thousand *sestertia*, which was a million of *sesterces*. But, to avoid ambiguity, they did not use the neuter *sestertium* in the singular number, when the whole sum amounted to no more than a thousand *sesterces*, or one *sestertium*. They called a million of *sesterces* *decies nummum*, or *decies sestertium*, for *decies centena millia nummorum*, or *sestertiorum* (in the masculine gender), omitting *centena millia* for the sake of brevity. They likewise called the same sum *decies sestertium* (in the neuter gender) for *decies centies sestertium*, omitting *centies* for the same reason; or simply *decies*, omitting *centena millia sestertium*, or *centies sestertium*; and with the numeral adverbs *decies, vicies, centies, millies*, and the like, either *centena millia* or *centies* was always understood. These were their most usual forms of expression; though for *bina, dena, vicena sestertia*, they frequently said *bina, dena, vicena millia nummum*. If the consular denarius contained 60 troy grains of fine silver, it was worth somewhat more than eight-pence farthing and a half sterling; and the *as*, of 16 to the denarius, a little more than a half-penny. To reduce the ancient *sesterces* of two asses and a half, when the denarius passed for 16, to pounds sterling, multiply the given number by 5454, and cut off six figures on the right hand for decimals. To reduce *nummi sestertii*, or quarters of the denarius, to pounds sterling; if the given sum be consular money, multiply it by 8727, and cut off six figures on the right hand for decimals; but for imperial money diminish the said product by one-eighth of itself. Phil. Trans. vol. lxi. part ii. art. 48.

To be qualified for a Roman knight, an estate of 400,000 *sesterces* was required; and for a senator, of 800,000.

Authors also mention a copper *sesterce*, worth about one-third of a penny English.

SESTERCE, or *sestertius*, was also used by the ancients for a thing containing two wholes and an half of another, as *as* was taken for any whole or integer.

SESTOS, a noted fortress of European Turkey, situated at the entrance of the Hellespont or Dardanelles, 24 miles south-west of Gallipoli. This place is famous for the loves of *HERO* and *LEANDER*, sung by the poet *Musæus*.

SESUVIUM, in botany; a genus of plants belonging to the class of icofandria, and to the order of trigynia. The calyx is coloured and divided into five parts; there are no petals; the capsule is egg-shaped, three-celled, opening horizontally about the middle, and containing many seeds. There is only one species, the *portulacastrum*, purslane-leaved *sesuvium*, which is a native of the West Indies.

SET, or *SETS*, a term used by the farmers and gardeners to express the young plants of the white thorn and other shrubs, with which they use to raise their quick or quick-set hedges. The white thorn is the best of all trees for this purpose; and, under proper regulations, its sets seldom fail of answering the farmer's utmost expectations.

SET-off, in law, is an act whereby the defendant acknowledges the justice of the plaintiff's demand on the one hand; but, on the other, sets up a demand of his own, to counterbalance that of the plaintiff, either in the whole, or in part: as, if the plaintiff sues for 10l. due on a note of hand, the defendant may set off 9l. due to himself for merchandise sold to the plaintiff; and, in case he pleads such set-off, must pay the remaining balance into court. This answers very nearly to the *compensatio* or stoppage of the civil law, and depends upon the statutes 2 Geo. II. cap. 22. and 8 Geo. II. cap. 24.

SETACEOUS WORM, in natural history, a name given by Dr Lister to that long and slender water-worm, which so much resembles a horse-hair, that it has been supposed by the vulgar to be an animated hair of that creature. These creatures, supposed to be living hairs, are a peculiar sort of insects, which are bred and nourished within the bodies of other insects, as the worms of the ichneumon flies are in the bodies of the caterpillars.

Aldrovand describes the creature, and tells us it was unknown to the ancients; but called *seta aquatica*, and *vermis setarius*, by the moderns, either from its figure resembling that of a hair, or from the supposition of its once having been the hair of some animal. We generally suppose it, in the imaginary state of the hair, to have belonged to a horse; but the Germans say it was once the hair of a calf, and call it by a name signifying *vitulus aquaticus*, or the "water calf."

Albertus, an author much revered by the common people, has declared that this animal is generated of a hair; and adds, that any hair thrown into standing water, will, in a very little time, obtain life and motion. Other authors have dissented from this opinion, and supposed them generated of the fibrous roots of water-plants; and others, of the parts of grasshoppers fallen into the water. This last opinion is rejected by Aldrovand as the most improbable of all. Standing and foul waters are most plentifully stored with them; but they are sometimes found in the clearest and purest springs, and sometimes out of the water, on the leaves of trees and plants, as on the fruit-trees in our gardens, and the elms in hedges. They are from three to five inches long, of the thickness of a large hair; and are brown,

Seston
Setaceous

Seth
||
Severance.

brown upon the back, and white under the belly, and the tail is white on every part.

SETH, the third son of Adam, the father of Enos, was born 3874 B. C. and lived 912 years.

SETHIANS, in church-history, Christian heretics; so called because they paid divine worship to Seth, whom they looked upon to be Jesus Christ the son of God, but who was made by a third divinity, and substituted in the room of the two families of Abel and Cain, which had been destroyed by the deluge. These heretics appeared in Egypt in the second century; and as they were addicted to all sorts of debauchery, they did not want followers; and continued in Egypt above 200 years.

SETIMO, a town of Italy, in the province of Piedmont, situated on the river Po, eight miles north of Turin.

SETON, in surgery, a few horse-hairs, small threads, or large packthread, drawn through the skin, chiefly the neck, by means of a large needle or probe, with a view to restore or preserve health.

We find by experience, that setons are very useful in catarrhs, inflammations, and other disorders, particularly those of the eyes, as a gutta serena, cataract, and incipient suffusion; to these we may add intense headaches, with stupidity, drowsiness, epilepsies, and even the apoplexy itself.

SETTEE, in sea-language, a vessel very common in the Mediterranean with one deck and a very long and sharp prow. They carry some two masts, some three, without top-masts. They have generally two masts, equipped with triangular sails, commonly called *lateen sails*. The least of them are of 60 tons burden. They serve to transport cannon and provisions for ships of war and the like. These vessels are peculiar to the Mediterranean sea, and are usually navigated by Italians, Greeks, or Mahometans.

SETTING, in astronomy, the withdrawing of a star or planet, or its sinking below the horizon. Astronomers and poets make three different kinds of setting of the stars, viz. the COSMICAL, ACRONYCAL, and HELIACAL. See these articles.

SETTING, in the sea-language. To set the land or the sun by the compass, is to observe how the land bears on any point of the compass, or on what point of the compass the sun is. Also when two ships sail in sight of one another, to mark on what point the chased bears, is termed *setting the chase by the compass*.

SETTING, among sportsmen, a term used to express the manner of taking partridges by means of a dog peculiarly trained to that purpose. See SHOOTING.

ACT OF SETTLEMENT, in British history, a name given to the statute 12 and 13 W. III. cap. 2. whereby the crown was limited to his present majesty's illustrious house; and some new provisions were added, at the same fortunate era, for better securing our religion, laws, and liberties; which the statute declares to be the birthright of the people of England, according to the ancient doctrine of the common law.

SEVENTH, in music, an interval called by the Greeks *heptachordon*. See INTERVAL.

SEVERANCE, in law, the singling or severing two or more that join or are joined in the same writ or action. As if two join in a writ, *de libertate probanda*, and the one be afterwards nonsuited; here severance is

permitted, so as notwithstanding the nonsuit the one, the other may severally proceed.

There is also severance of the tenants in assize; when one, two, or more disseisees appear upon the writ, and not the other. And severance in debt, where two executors are named plaintiffs, and the one refuses to prosecute. We also meet with severance of summons, severance in attainments, &c. An estate in joint tenancy may be severed and destroyed by destroying any of its unities. 1. That of time, which respects only the original commencement of the joint estate, cannot indeed (being now part) be affected by any subsequent transaction. But, 2. The joint-tenants estate may be destroyed without any alienation, by merely disuniting their possession. 3. The jointure may be destroyed, by destroying the unity of title. And, 4. By destroying the unity of interest.

SEVERIA, a province of the Russian empire, with the title of a duchy, bounded on the north by Smolensko and Muscovy, on the east by Vorotinsbi and the country of the Cossacks, on the south by the same, and on the west by Zernegovia. It is a country overrun with woods, and on the south part is a forest of great length. Novogrodec, or Novogorod, is the capital town.

ST SEVERINA, a town of Italy, in the kingdom of Naples, and in Lower Calabria, with an archbishop's see. It is very well fortified, and seated on a craggy rock, on the river Necto; in E. Long. 17. 14. N. Lat. 39. 15.

SEVERINO, a town of Italy, in the territory of the church, and in the Marche of Ancona, with a bishop's see. It has fine vineyards, and is seated between two hills on the river Petenza, in E. Long. 13. 6. N. Lat. 43. 16.

SEVERN, a river which rises near Plimlimmon-Hill in Montgomeryshire, and before it enters Shropshire receives about 30 streams, and passes down to Ludring, where it receives the Morda, that flows from Oswestry. When it arrives at Monford, it receives the river Mon, passing on to Shrewsbury, which it almost surrounds, then to Bridgworth; afterwards it runs through the skirts of Staffordshire, enters Worcestershire, and passes by Worcester; then it runs to Tewkesbury, where it joins the Avon, and from thence to Gloucester, keeping a north-westerly course, till it falls into the Bristol Channel. It begins to be navigable for boats at Welchpool, in Montgomeryshire, and takes in several other rivers in its course, besides those already mentioned, and is the second in England. By the late inland navigation, it has communication with the rivers Mersey, Dee, Ribble, Ouse, Trent, Derwent, Humber, Thames, Avon, &c. which navigation, including its windings, extends above 500 miles in the counties of Lincoln, Nottingham, York, Lancaster, Westmoreland, Chester, Stafford, Warwick, Leicester, Oxford, Worcester, &c. A canal from Stroud-Water, a branch of the Severn, to join the Thames, has lately been undertaken, by which great undertaking of conveying a tunnel 16 feet high and 16 feet wide, under Sapperton Hill and Hayley-Wood (very high ground), for two miles and a quarter in length, through a very hard rock, lined and arched with brick, is entirely completed, and boats passed through it the 21st of May 1789. By this opening, a communication is made between the river Severn at

Severia
||
Severn.

Lucombe's
English Ga-
zetteer.

Severus.

Framiload and the Thames near Lechlade, and will be continued over the Thames near Ingleham, into deep water in the Thames below St John-Bridge, and so to Oxford, &c. and London, for conveyance of coals, goods, &c. It is now navigable from the Severn to Themsford, by way of Stroud, Cirencester, Cricklade, &c. being filled with water for that purpose near 40 miles.

SEVERUS (Cornelius), an ancient Latin poet of the Augustan age; whose *Ætina*, together with a fragment *De morte Ciceronis*, were published, with notes and a prose interpretation, by Le Clerc, 12mo, Amsterdam, 1703. They were before inserted among the *Catalecta Virgilii* published by Scaliger; whose notes, with others, Le Clerc has received among his own.

SEVERUS (Septimus), a Roman emperor, who has been so much admired for his military talents, that some have called him the most warlike of the Roman emperors. As a monarch he was cruel, and it has been observed that he never did an act of humanity or forgave a fault. In his diet he was temperate, and he always showed himself an open enemy to pomp and splendor. He loved the appellation of a man of letters, and he even composed an history of his own reign, which some have praised for its correctness and veracity. However cruel Severus may appear in his punishments and in his revenge, many have endeavoured to exculpate him, and observed that there was need of severity in an empire where the morals were so corrupted, and where no less than 3000 persons were accused of adultery during the space of 17 years. Of him, as of Augustus, some were fond to say, that it would have been better for the world if he had never been born, or had never died. See ROME, n° 372.

SEVERUS'S Wall, in British topography, the fourth and last barrier erected by the Romans against the incursions of the North Britons. See the articles ADRIAN, and ANTONINUS'S Wall.

We learn from several hints in the Roman historians, that the country between the walls of Hadrian and Antoninus continued to be a scene of perpetual war and subject of contention between the Romans and Britons, from the beginning of the reign of Commodus to the arrival of the emperor Septimius Severus in Britain, A. D. 206. This last emperor having subdued the Mæatæ, and repulsed the Caledonians, determined to erect a stronger and more impenetrable barrier than any of the former, against their future incursions.

Though neither Dio nor Herodian make any mention of a wall built by Severus in Britain for the protection of the Roman province, yet we have abundant evidence from other writers of equal authority, that he really built such a wall. "He fortified Britain (says Spartian) with a wall drawn cross the island from sea to sea; which is the greatest glory of his reign. After the wall was finished, he retired to the next station (York), not only a conqueror, but the founder of an eternal peace." To the same purpose, Aurelius Victor and Orosius, to say nothing of Eutropius and Cassiodorus: "Having repelled the enemy in Britain, he fortified the country, which was suited to that purpose, with a wall drawn cross the island from sea to sea."—"Severus drew a great ditch, and built a strong wall, fortified with several turrets, from sea to sea, to protect that part of the island which he had recovered from

the yet unconquered nations." As the residence of the emperor Severus in Britain was not quite four years, it is probable that the two last of them were employed in building this wall; according to which account, it was begun A. D. 209, and finished A. D. 210.

This wall of Severus was built nearly on the same tract with Hadrian's rampart, at the distance only of a few paces north. The length of this wall, from Cousins' house near the mouth of the river Tyne on the east, to Boulness on the Solway frith on the west, hath been found, from two actual mensurations, to be a little more than 68 English miles, and a little less than 74 Roman miles. To the north of the wall was a broad and deep ditch, the original dimensions of which cannot now be ascertained, only it seems to have been larger than that of Hadrian. The wall itself, which stood on the south brink of the ditch, was built of free-stone, and where the foundation was not good, it is built on piles of oak; the interstices between the two faces of this wall is filled with broad thin stones, placed not perpendicularly, but obliquely on their edges; the running mortar or cement was then poured upon them, which, by its great strength and tenacity, bound the whole together, and made it firm as a rock. But though these materials are sufficiently known, it is not easy to guess where they were procured, for many parts of the wall are at a great distance from any quarry of free stone; and, though stone of another kind was within reach, yet it does not appear to have been anywhere used. The height of this wall was 12 feet besides the parapet, and its breadth 8 feet, according to Bede, who lived only at a small distance from the east end of it, and in whose time it was almost quite entire in many places. Such was the wall erected by the command and under the direction of the emperor Severus in the north of England; and, considering the length, breadth, height, and solidity, it was certainly a work of great magnificence and prodigious labour. But the wall itself was but a part, and not the most extraordinary part, of this work. The great number and different kinds of fortresses which were built along the line of it for its defence, and the military ways with which it was attended, are still more worthy of our admiration, and come now to be described.

The fortresses which were erected along the line of Severus's wall for its defence, were of three different kinds, and three different degrees of strength; and were called by three different Latin words, which may be translated *stations*, *castles*, and *turrets*. Of each of these in their order.

The *stationes*, stations, were so called from their stability and the stated residence of garrisons. They were also called *castra*, which hath been converted into *cheshires*, a name which many of them still bear. These were by far the largest, strongest, and most magnificent of the fortresses which were built upon the wall, and were designed for the head-quarters of the cohorts of troops which were placed there in garrison, and from whence detachments were sent into the adjoining castles and turrets. These stations, as appears from the vestiges of them which are still visible, were not all exactly of the same figure nor of the same dimensions; some of them being exactly squares, and others oblong, and some of them a little larger than others. These variations were no doubt occasioned by the difference of situation

Severus. tuation and other circumstances. The stations were fortified with deep ditches and strong walls, the wall itself coinciding with and forming the north wall of each station. Within the stations were lodgings for the officers and soldiers in garrison; the smallest of them being sufficient to contain a cohort, or 600 men. Without the walls of each station was a town, inhabited by labourers, artificers, and others, both Romans and Britons, who chose to dwell under the protection of these fortresses. The number of the stations upon the wall was exactly 18; and if they had been placed at equal distances, the interval between every two of them would have been four miles and a few paces: but the intervention of rivers, marshes, and mountains; the conveniency of situations for strength, prospect, and water; and many other circumstances to us unknown, determined them to place these stations at unequal distances. The situation which was always chosen by the Romans, both here and everywhere else in Britain where they could obtain it, was the gentle declivity of a hill, near a river, and facing the meridian sun. Such was the situation of the far greatest part of the stations on this wall. In general, we may observe, that the stations stood thickest near the two ends and in the middle, probably because the danger of invasion was greatest in these places. But the reader will form a clearer idea of the number of these stations, their Latin and English names, their situation and distance from one another, by inspecting the following table, than we can give him with equal brevity in any other way. The first column contains the number of the station, reckoning from east to west; the second contains its Latin, and the third its English name; and the three last its distance from the next station to the west of it, in miles, furlongs, and chains.

N ^o	Latin Name.	English Name.	M	F.	C.
1	Segedunum	Cousins'-house	3	5	1½
2	Pons Ælii	Newcastle	2	0	9
3	Condercum	Benwell hill	6	6	5
4	Vindobala	Rutcheſter	7	0	3½
5	Hunnum	Halton-cheſters	5	1	7
6	Cilurnum	Walwick-cheſters	3	1	8
7	Procolitia	Carrawburgh	4	5	3½
8	Borcovicus	Houſeſteeds	1	3	8
9	Vindolana	Little-cheſters	3	6	4
10	Æſica	Great-cheſters	2	1	6½
11	Magna	Carrvoran	2	6	0
12	Amboglanna	Burdoſwald	6	2	8
13	Petriana	Cambeck	2	6	6
14	Aballaba	Watchcrofs	5	1	9
15	Congavata	Stanwix	3	3	4
16	Æxelodunum	Brugh	4	0	9
17	Gabroſentum	Brumburgh	3	4	1
18	Tunnocelum	Boulneſs	0	0	0
Length of the wall			68	3	3

The *caſtella*, or caſtles, were the ſecond kind of fortifications which were built along the line of this wall for its defence. Theſe caſtles were neither ſo large nor ſtrong as the ſtations, but much more numerous, being no fewer than 81. The ſhape and dimensions of the caſtles, as appears from the foundations of many

of them which are ſtill viſible, were exact ſquares of *Severus.* 66 feet every way. They were fortified on every ſide with thick and lofty walls, but without any ditch, except on the north ſide; on which the wall itſelf, raiſed much above its uſual height, with the ditch attending it, formed the fortification. The caſtles were ſituated in the intervals between the ſtations, at the diſtance of about ſeven furlongs from each other; though particular circumſtances ſometimes occaſioned a little variation. In theſe caſtles, guards were conſtantly kept by a competent number of men detached from the neareſt ſtations.

The *turres*, or turrets, were the third and laſt kind of fortifications on the wall. Theſe were ſtill much ſmaller than the caſtles, and formed only a ſquare of about 12 feet, ſtanding out of the wall on its ſouth ſide. Being ſo ſmall, they are more entirely ruined than the ſtations and caſtles, which makes it difficult to diſcover their exact number. They ſtood in the intervals between the caſtles; and from the faint veſtiges of a few of them, it is conjectured that there were four of them between every two caſtles, at the diſtance of about 300 yards from one another. According to this conjecture, the number of the turrets amounted to 324. They were deſigned for watch-towers and places for ſentinels, who, being within hearing of one another, could convey an alarm or piece of intelligence to all parts of the wall in a very little time.

Such were the ſtations, caſtles, and turrets, on the wall of *Severus*; and a very conſiderable body of troops was conſtantly quartered in them for its defence. The uſual complement allowed for this ſervice was as follows:

1. Twelve cohorts of foot, conſiſting of 600 men each, 7,200
 2. One cohort of mariners in the ſtation at Boulneſs, 600
 3. One detachment of Moors, probably equal to a cohort, 600
 4. Four alæ or wings of horſe, conſiſting, at the loweſt computation, of 400 each, 1,600
- 10,000

For the conveniency of marching theſe troops from one part of the wall to another, with the greater eaſe and expedition, on any ſervice, it was attended with two military ways, paved with ſquare ſtones, in the moſt ſolid and beautiful manner. One of theſe ways was ſmaller, and the other larger. The ſmaller military way run cloſe along the ſouth ſide of the wall, from turret to turret, and caſtle to caſtle, for the uſe of the ſoldiers in relieving their guards and centinels, and ſuch ſervices. The larger way did not keep ſo near the wall, nor touch at the turrets or caſtles, but purſued the moſt direct courſe from one ſtation to another, and was deſigned for the conveniency of marching larger bodies of troops.

It is to be regretted, that we cannot gratify the reader's curioſity, by informing him by what particular bodies of Roman troops the ſeveral parts of this great work were executed; as we were enabled to do with regard to the wall of Antoninus Pius from inſcriptions. For though it is probable that there were

Severus. stones with inscriptions of the same kind, mentioning the several bodies of troops, and the quantity of work performed by each of them, originally inserted in the face of this wall, yet none of them are now to be found. There have indeed been discovered, in or near the ruins of this wall, a great number of small square stones, with very short, and generally imperfect, inscriptions upon them; mentioning particular legions, cohorts, and centuries; but without directly asserting that they had built any part of the wall, or naming any number of paces. Of these inscriptions, the reader may see no fewer than twenty-nine among the Northumberland and Cumberland inscriptions in Mr Horsley's *Britannia Romana*. As the stones on which these inscriptions are cut are of the same shape and size with the other facing-stones of this wall, it is almost certain that they have been originally placed in the face of it. It is equally certain, from the uniformity of these inscriptions, that they were all intended to intimate some one thing, and nothing so probable as that the adjacent wall was built by the troops mentioned in them. This was, perhaps, so well understood, that it was not thought necessary to be expressed; and the distance of these inscriptions from one another showed the quantity of work performed. If this was really the case, we know in general, that this great work was executed by the second and sixth legions, these being the only legions mentioned in these inscriptions. Now, if this prodigious wall, with all its appendages of ditches, stations, castles, towers, and military ways, was executed in the space of two years by two legions only, which, when most complete, made no more than 12,000 men, how greatly must we admire the skill, the industry, and excellent discipline of the Roman soldiers, who were not only the valiant guardians of the empire in times of war, but its most active and useful members in times of peace?

This wall of Severus, and its fortresses, proved an impenetrable barrier to the Roman territories for near 200 years. But about the beginning of the 5th century, the Roman empire being assaulted on all sides, and the bulk of their forces withdrawn from Britain, the Mæatae and Caledonians, now called *Scots* and *Picts*, became more daring; and some of them breaking through the wall, and others sailing round the ends of it, they carried their ravages into the very heart of Provincial Britain. These invaders were indeed several times repulsed after this by the Roman legions sent to the relief of the Britons. The last of these legions, under the command of Gallio of Ravenna, having, with the assistance of the Britons, thoroughly repaired the breaches of Severus's wall and its fortresses, and exhorted the Britons to make a brave defence, took their final farewell of Britain. It soon appeared, that the strongest walls and ramparts are no security to an undisciplined and dastardly rabble, as the unhappy Britons then were. The Scots and Picts met with little resistance in breaking through the wall, while the towns and castles were tamely abandoned to their destructive rage. In many places they levelled it with the ground, that it might prove no obstruction to their future inroads.—From this time no attempts were ever made to repair this noble work. Its beauty and grandeur procured it no respect in the dark and tasteless ages which succeeded. It became the common quarry for more than a thousand years, out of which all the towns and vil-

lages around were built; and is now so entirely ruined, that the penetrating eyes of the most poring and patient antiquarian, can hardly trace its vanishing foundations.

SEVIGNÉ (Marie de Rabutin, Marquise de), a French lady, was born in 1626. When only a year old she lost her father, who was killed in the descent of the English on the isle of Rhé, where he commanded a company of volunteers. In 1644 she married the Marquis of Sevigné, who was slain in a duel by the Chevalier d'Albret, in 1651. She had by him a son and a daughter, to the education of whom she afterwards religiously devoted herself. Her daughter was married in 1669 to the Count of Grignan, who conducted her to Provence. Madame de Sevigné consoled herself by writing frequent letters to her daughter. She fell at last the victim to her maternal tenderness. In one of her visits to Grignan, she fatigued herself so much during the sickness of her daughter, that she was seized with a fever, which carried her off on the 14th of January 1696. We have two portraits of Madame de Sevigné; the one by the Comte de Buffi, the other by Madame de la Fayette. The first exhibits her defects; the second her excellencies. Buffi describes her as a lively gay coquette, a lover of flattery, fond of titles, honour, and distinction: M. de la Fayette as a woman of wit and good sense, as possessed of a noble soul, formed for dispensing benefits, incapable of debasing herself by avarice, and blessed with a generous, obliging, and faithful heart. Both these portraits are in some measure just. That she was vain-glorious, appears evident from her own letters, which, on the other hand, exhibit undoubted proofs of her virtue and goodness of heart.

This illustrious lady was acquainted with all the wits of her age. It is said that she decided the famous dispute between Perrault and Boileau concerning the preference of the ancients to the moderns, thus, "The ancients are the finest, and we are the prettiest." She left behind her a most valuable collection of letters, the best edition of which is that of 1775, in 8 vols 12mo. "These letters (says Voltaire) are filled with anecdotes, written with freedom, and in a natural and animated style; are an excellent criticism upon studied letters of wit, and still more upon those fictitious letters which aim at the epistolary style, by a recital of false sentiments and feigned adventures to an imaginary correspondent." It were to be wished that a proper selection had been made of these letters. It is difficult to read eight volumes of letters, which, though inimitably written, present frequent repetitions, and are often filled with trifles. What makes them in general perhaps so interesting is, that they are in part historical. They may be looked upon as a relation of the manners, the ton, the genius, the fashions, the etiquette, which reigned in the court of Louis XIV. They contain many curious anecdotes nowhere else to be found: But these excellencies would be still more striking, were they sometimes stripped of that multitude of domestic affairs and minute incidents which ought naturally to have died with the mother and the daughter. A volume entitled *Sevigniana* was published at Paris in 1756, which is nothing more than a collection of the fine sentiments, literary and historical anecdotes, and moral apothegms, scattered throughout these letters.

SEVILLE,

Sevigné

Siecle de
Louis XIV.
tom. ii.

Seville.

SEVILLE, a large and populous city of Spain, stands on the banks of the Guadalquivir, in the midst of a rich, and to the eye a boundless, plain; in W. Long. 5° 5' N. Lat. 37° 20'. This city is supposed to have been founded by the Phœnicians, who gave it the name of *Hispalis*. When it fell under the power of the Romans, it was called *Julia*; and at last, after a variety of corruptions, was called *Sevilla* or *Sevilla*; both of which names are retained by the Spaniards. The Romans embellished it with many magnificent edifices; of which scarce any vestige now remains. The Gothic kings for some time made it their residence: but in process of time they removed their court to Toledo; and Seville was taken by storm soon after the victory obtained at Xeres over the Gothic king Rodrigo.— In 1027, Seville became an independent monarchy; but was conquered 70 years afterwards by Yusef Almoravides, an African prince. At last it was taken by Ferdinand III. after a year's siege; and 300,000 Moors were then obliged to leave the place. Notwithstanding this prodigious emigration, Seville continued to be a great and populous city, and soon after it was enlarged and adorned with many magnificent buildings, the chief of which is the cathedral. Seville arrived at its utmost pitch of grandeur a little after the discovery of America, the reason of which was, that all the valuable productions of the West Indies were carried thither. Its court was then the most splendid in Europe; but in the course of a few years all this grandeur disappeared, owing to the impediments in navigating the Guadalquivir. The superior excellence of the port of Cadiz induced government to order the galleons to be stationed there in time to come.

Seville is of a circular form, and is surrounded by a wall about five miles and a half in circumference, containing 176 towers. The ditch in many places is filled up. The streets of Seville are crooked and dirty, and most of them so narrow that two carriages can scarcely pass one another abreast.

Seville is said to contain 80,268 souls, and is divided into 30 parishes. It has 84 convents, with 24 hospitals.

Townsend's
Travels,
vol. ii.

Of the public edifices of this city the cathedral is the most magnificent. Its dimensions are 420 feet in length, 263 in breadth within the walls, and 126 feet in height. It has nine doors, 80 altars, at which 500 masses are daily celebrated, and 80 windows of painted glass, each of which cost 1000 ducats. At one angle stands a tower of Moorish workmanship 350 feet high. On the top of it is the giralda, or large brazen image, which, with its palm branch, weighs near one ton and a half, yet turns as a weather-cock with the slightest variation of the wind. The whole work is brick and mortar. The passage to the top is an inclined plane, which winds about in the inside in the manner of a spiral staircase, so easy of ascent that a horse might trot from the bottom to the top; at the same time it is so wide that two horsemen may ride abreast. What appears very unaccountable, the solid masonry in the upper half is just as thick again as that in the lower, tho' on the outside the tower is all the way of the same dimensions. In the opinion of Mr Swinburne, this cathedral is inferior to Yorkminster. Its treasures are inestimable; one altar with all its ornaments is solid silver; of the same metal are the images of St Isidore

and St Leander, which are as large as the life; and a tabernacle for the host more than four yards high, adorned with eight and forty columns. Before the choir of the cathedral is the tomb of the celebrated Christopher Columbus, the discoverer of America. His monument consists of one stone only, on which these words are inscribed, *A Castilla y Arragon otro mundo dio Colon*; that is, "To Castile and Arragon Columbus gave another world:" an inscription simple and expressive, the justness of which will be acknowledged by those who have read the adventures of this illustrious but unfortunate man. The cathedral was begun by Don Sancho the Brave, about the close of the 13th century, and finished by John II. about an hundred years after. To the cathedral belongs a library of 20,000 volumes, collected by Hernando the son of Columbus; but, to the disgrace of the Spaniards, it has scarcely received any addition since the death of the founder. The organ in this cathedral is a very ingenious piece of mechanism†. "I was much pleased (says Mr Townsend in his interesting travels) with the construction of a new organ, containing 5300 pipes, with 110 stops, which latter, as the builder told me, is 50 more than are in the famous one of Harlem; yet, so ample are the bellows, that when stretched they supply the full organ 15 minutes. The mode of filling them with air is singular; for instead of working with his hands, a man walks backwards and forwards along an inclined plane of about 15 feet in length, which is balanced in the middle on its axis; under each end is a pair of bellows, of about six feet by three and an half. These communicate with five other pair united by a bar; and the latter are so contrived, that when they are in danger of being overstrained, a valve is lifted up, and gives them relief. Passing 10 times along the inclined plane fills all these vessels."

Seville.

Bourgoanne's
Travels,
vol. ii.

† Vol. ii.
p. 318.

The Canos de Carmone, or great aqueduct of Seville, is reckoned by the historians of this city one of the most wonderful works of antiquity. Mr Swinburne, however, remarks, that it is ugly, crooked, the arches unequal, and the architecture neglected. The conduit is so leaky, that a rivulet is formed by the waste water. Nevertheless, it still conveys to the city an ample supply of water sufficient to turn several mills, and to give almost every house in town the benefit of it.

Swinburne's
Travels,
p. 283.

Many of the convents are remarkable for the beauty of their architecture; but in Seville the eye covets only pictures, of which there is a wonderful profusion. Among these are the works of the famous painter Murillo, with many others universally admired.

The convent of the Franciscans contains 15 cloisters, with apartments for 200 monks, though, when Mr Townsend visited them, they amounted only to 140. The annual expenditure of these, who are all fed on charity, is about L. 4000 Sterling. "In the principal cloister (says the same intelligent traveller), which is entirely inclosed by a multitude of little chapels, are represented, in 14 pictures, each called a *station*, all the sufferings of the Redeemer. These are so arranged as to mark given distances by walking round the cloister from the first to the second, and so in order to the rest. Over them is mentioned the number of steps taken by our Lord between the several incidents of his passion in his way to Calvary; and these precisely are the paces

Townsend's
Travels,
vol. ii.
p. 326.

mea-

Seville.

measured for the penitents in their progress from one station to another. Over one is the following inscription: 'This station consists of 1087 steps. Here the blessed Redeemer fell a second time under the weight of his cross, and here is to be gained the indulgence of seven years and forty quarantines. Mental prayer, the Paternoster, and the Ave Maria.' This may serve as an example for the rest."

The principal manufacture of Seville is snuff. Mr Townsend, who paid particular attention to it, informs us, that the building in which it is carried on is elegant and simple in its form, and is about 600 feet by 480, and not less than 60 feet in height, with four regular fronts, inclosing 28 quadrangles. It cost 37,000,000 of reals, or about L. 370,000. At present (1787), no more than 1700 workmen are employed, and 100 horses or mules; but formerly 3000 men were engaged, and near 400 horses. This falling off is attributed by Mr Swinburne to a practice which the directors followed, of adulterating the tobacco with the red earth of Almazarron. When Mr Townsend visited this manufacture, they had changed their system. From the year 1780, he informs us, the annual sale of tobacco from Brazil has been 1,500,000 pounds, purchased from the Portuguese at three reals a pound; and of snuff from the produce of their own colonies 1,600,000 pounds, beside *cigars* (A) to a very considerable amount. They have lying by them more than 5,000,000 of pounds of snuff unfold; but as it will not suffer by age, they are not uneasy at this accumulation. Besides the peculiar kind of snuff with which Spain was accustomed to supply the market, they have lately introduced the manufacture of rappee. In this branch alone are employed 220 persons, old and young, with 16 mules.

"All the workmen (continues Mr Townsend) deposit their cloaks at the door; and when they go out are so strictly examined, that they have little chance of being able to conceal tobacco; yet they sometimes venture to hide it about their persons. An officer and a guard is always attending to take delinquents into custody; and that they may prevent resistance, no workman is permitted to enter with a knife. Were it not for this precaution, the consequence of a detection might be fatal. The whole business is conducted by a director, with a salary of 40,000 reals a-year, and 54 superior officers, assisted by as many subordinate to them. For grinding their snuff, they have 40 mills, each consisting of a stone roller, moved by a large horse or mule, with the traces fastened to a beam of eight feet in length, in the angle of 45 degrees, consequently losing precisely half his force."

Before Mr Townsend left Seville, according to his usual practice, which was truly laudable, he enquired into the prices of labour and provisions. As a piece of curious and useful information, and as an example to other travellers, we present them to our readers. They are as follow:

Day-labourers	-	4½ reals, about	L. 0	0	10½
Carpenters from 7 to 11	—				
Joiners, if good work-					
men,	-	24 — or	-	0	4 9

Weavers, if good workmen, 15 reals,

about	-	-	L. 0	3	0
Bread, for 3 lb. of 16 oz. or 16 quartos, or	-	-	0	0	4½
— sometimes 28 quartos, or	-	-	0	0	7½
Beef, 30 quartos for 32 oz. per lb. about	-	-	0	0	4½
Mutton, 38 do. do.	-	-	0	0	5½
Kid, 24 do.	-	-	0	0	3½

Pork from 36 to 42 quartos, do.	{	or	0	0	5½
	{	to	0	0	5½

The price of wheat has at different periods been very remarkable. In 1652, it sold at the rate of 15s. 3½d. the bushel; and in 1657, it fell so low as 1s. 4½d. per bushel, reckoning the fanega at 109½ lb. and the bushel at 70.

SEVUM MINERALE, mineral tallow; a substance somewhat resembling tallow, found on the sea-coasts of Finland in the year 1736. It burns with a blue flame, and smell of grease, leaving a black viscid matter which cannot easily be consumed. It is extremely light; being only of the specific gravity of 0.770; whereas tallow is not less than 0.969. It is partly soluble in highly rectified spirit of wine; but entirely so in expressed oils when boiling. It is met with in some of the rocky parts of Persia, but there it appears to be mixed with petrolæum. Dr Herman of Strasburg mentions a spring in the neighbourhood of that city which contains a substance of this sort diffused through it, separating, and capable of being collected on ebullition. — A fat mineral matter resembling butter or tallow has lately been extracted from peat in Lancashire. See PEAT.

SEWAURY, a Hindoo word used in Bengal, and signifying the train of attendants that accompany a nabob or great man.

SEWER, in the Household, an officer who arranges on the table the dishes of a king or nobleman.

SEWER is also a passage or gutter made to carry water into the sea or a river, whereby to preserve the land, &c. from inundations and other annoyances.

Court of Commissioners of SEWERS in England, a temporary tribunal, erected by virtue of a commission under the great seal; which formerly used to be granted *pro re nata* at the pleasure of the crown, but now at the discretion and nomination of the lord chancellor, lord treasurer, and chief justices, pursuant to the statute 23 Hen. VIII. c. 5. Their jurisdiction is to overlook the repairs of sea-banks and sea-walls, and the cleansing of rivers, public streams, ditches, and other conduits, whereby any waters are carried off; and is confined to such county or particular district as the commission shall expressly name. The commissioners are a court of record, and may fine and imprison for contempts; and in the execution of their duty may proceed by jury, or upon their own view, and may take order for the removal of any annoyances, or the safeguard and conservation of the sewers within their commission, either according to the laws and customs of Romney-marsh, or otherwise at their own discretion. They may also assess such rates or scots upon the owners of lands within their district as they shall judge necessary: and if any person refuses to pay them, the commissioners may levy the

Sevum

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Sewer.

(A) These are little rolls of tobacco which the Spaniards smoke without a pipe.

Sewer. the same by distress of his goods and chattels; or they may, by statute 23 Hen. VIII. c. 5. sell his freehold-lands (and by the 7 Ann. c. 10. his copyhold also), in order to pay such scots or assessments. But their conduct is under the controul of the court of King's-bench, which will prevent or punish any illegal or tyrannical proceedings. And yet in the reign of King James I. (8th Nov. 1616.), the privy-council took upon them to order, that no action or complaint should be prosecuted against the commissioners unless before that board; and committed several to prison who had brought such actions at common law, till they should release the same: and one of the reasons for discharging Sir Edward Coke from his office of lord chief-justice, was for countenancing those legal proceedings. The pretence for these arbitrary measures was no other than the tyrant's plea of the necessity of unlimited powers in works of evident utility to the public, "the supreme reason above all reasons, which is the salvation of the king's lands and people." But now it is clearly held, that this (as well as all other inferior jurisdictions) is subject to the discretionary coercion of his majesty's court of King's-bench.

*Ferguson's
Roman Hi-
story.*

Common SEWERS, in Rome, were executed at a great expence. It was proposed that they should be of sufficient dimensions to admit a waggon loaded with hay. When these common sewers came to be obstructed, or out of repair, under the republic, the censors contracted to pay a thousand talents, or about 193,000 l. for clearing and repairing them. They were again in disrepair at the accession of Augustus Cæsar, and the re-instating them is mentioned among the great works of Agrippa. He is said to have turned the course of seven rivers into these subterraneous passages, to have made them navigable, and to have actually passed in barges under the streets and buildings of Rome. These works are still supposed to remain; but as they exceed the power and resources of the present city to keep them in repair, they are quite concealed, except at one or two places. They were in the midst of the Roman greatness, and still are, reckoned among the wonders of the world; and yet they are said to have been works of the elder Tarquin, a prince whose territory did not extend, in any direction, above 16 miles; and, on this supposition, they must have been made to accommodate a city that was calculated chiefly for the reception of cattle, herdsmen, and banditti. Rude nations sometimes execute works of great magnificence, as fortresses and temples, for the purposes of war and superstition; but seldom palaces, and still more seldom works of mere convenience and cleanliness, in which for the most part they are long defective. It is not unreasonable, therefore, to question the authority of tradition in respect to this singular monument of antiquity, which so greatly exceeds what the best accommodated city of modern Europe could undertake for its own convenience. And as those works are still entire, and may continue so for thousands of years, it may be suspected that they were even prior to the settlement of Romulus, and may have been the remains of a more ancient city, on the ruins of which the followers of Romulus settled, as the Arabs now hut or encamp on the ruins of Palmyra and Balbeck. Livy owns, that the common sewers were not accommodated to the plan of Rome, as

it was laid out in his time; they were carried in directions across the streets, and passed under buildings of the greatest antiquity. This derangement indeed he imputes to the hasty rebuilding of the city after its destruction by the Gauls; but haste, it is probable, would have determined the people to build on their old foundations, or at least not to change them so much as to cross the direction of former streets.

SEX, the property by which any animal is male or female.

Lavater has drawn the following characteristic distinctions between the male and female of the human species.

"The primary matter of which women are constituted appears to be more flexible, irritable, and elastic, than that of man. They are formed to maternal mildness and affection; all their organs are tender, yielding, easily wounded, sensible, and receptive. Among a thousand females there is scarcely one without the generic feminine signs; the flexible, the circular, and the irritable.

"They are the counterpart of man, taken out of man, to be subject to man; to comfort him like angels, and to lighten his cares. 'She shall be saved in child-bearing, if they continue in faith, and charity, and holiness, with sobriety' (1 Tim. ii. 15.) This tenderness, this sensibility, this light texture of their fibres and organs, this volatility of feeling, render them so easy to conduct and to tempt; so ready of submission to the enterprise and power of the man; but more powerful through the aid of their charms than man, with all his strength. The man was not first tempted, but the woman, afterward the man by the woman. And, not only easy to be tempted, she is capable of being formed to the purest, noblest, most seraphic virtue; to every thing which can deserve praise or affection. Highly sensible of purity, beauty, and symmetry, she does not always take time to reflect on internal life, internal death, internal corruption. 'The woman saw that the tree was good for food, and that it was pleasant to the eyes, and a tree to be desired to make one wise, and she took of the fruit thereof.' (Gen. iii. 6.)

"The female thinks not profoundly; profound thought is the power of the man. Women feel more. Sensibility is the power of woman. They often rule more effectually, more sovereignly, than man. They rule with tender looks, tears, and sighs; but not with passion and threats; for if, or when, they so rule, they are no longer women but abortions. They are capable of the sweetest sensibility, the most profound emotion, the utmost humility, and the excess of enthusiasm. In their countenance are the signs of sanctity and inviolability, which every feeling man honours, and the effects of which are often miraculous. Therefore, by the irritability of their nerves, their incapacity for deep inquiry and firm decision, they may easily from their extreme sensibility become the most irreclaimable, the most rapturous enthusiasts. Their love, strong and rooted as it is, is very changeable; their hatred almost incurable, and only to be effaced by continued and artful flattery. Men are most profound; women are more sublime.

"Men most embrace the whole; women remark individually, and take more delight in selecting the minutæ which form the whole. Man hears the bursting thunder,

Sex.

Sex.

thunder, views the destructive bolt with serene aspect, and stands erect amidst the fearful majesty of the streaming clouds. Woman trembles at the lightning, and the voice of distant thunder; and shrinks into herself or sinks into the arms of man. Man receives a ray of light single, woman delights to view it through a prism in all its dazzling colours. She contemplates the rainbow as the promise of peace; he extends his inquiring eye over the whole horizon. Woman laughs, man smiles; woman weeps, man remains silent. Woman is in anguish when man weeps, and in despair when man is in anguish; yet has she often more faith than man. Man without religion, is a diseased creature, who would persuade himself he is well, and needs not a physician; but woman without religion, is raging and monstrous. A woman with a beard is not so disgusting as a woman who acts the freethinker; her sex is formed to piety and religion; to them Christ first appeared; but he was obliged to prevent them from too ardently, and too hastily, embracing him: 'Touch me not.' They are prompt to receive and seize novelty, and become its enthusiasts. The whole world is forgotten in the emotion caused by the presence and proximity of him they love. They sink into the most incurable melancholy, as they also rise to the most enraptured heights.

"Male sensation is more imagination, female more heart. When communicative, they are more communicative than man; when secret, more secret. In general they are more patient, long-suffering, credulous, benevolent, and modest. Woman is not a foundation on which to build. She is the gold, silver, precious stones, wood, hay, stubble (1 Cor. iii. 12.); the materials for building on the male foundation. She is the leaven, or more expressively the oil to the vinegar of man: the second part of the book of man.

"Man singly is but half man; at least but half human; a king without a kingdom. Woman, who feels properly what she is, whether still or in motion, rests upon the man; nor is man what he may and ought to be, but in conjunction with woman: therefore, 'it is not good that man should be alone, but that he should leave father and mother, and cleave to his wife, and they two shall be one flesh.'

They differ also in their exterior form and appearance.

"Man is the most firm; woman the most flexible. Man is the straightest; woman the most bending. Man stands steadfast; woman gently retreats. Man surveys and observes; woman glances and feels. Man is serious; woman is gay. Man is the tallest and broadest; woman the smallest and weakest. Man is rough and hard; woman smooth and soft. Man is brown; woman is fair. Man is wrinkly; woman is not. The hair of man is more strong and short; of woman more long and pliant. The eyebrows of man are compressed; of woman less frowning. Man has most convex lines; woman most concave. Man has most straight lines; woman most curved. The countenance of man taken in profile is more seldom perpendicular than that of the woman. Man is most angular; woman most round."

*Fitzosborne's
Letters.*

In determining the comparative merit of the two sexes, it is no derogation from female excellency that it differs in kind from that which distinguishes the male part of our species: and if, in general, it should be found (what upon an impartial inquiry will most cer-

Sex.

tainly be found) that women fill up their appointed circle of action with greater regularity than men, the claim of preference cannot justly be decided in our favour. In the prudential and economical parts of life, it is undeniable that they rise far above us: and if true fortitude of mind is best discovered by a cheerful resignation to the measures of Providence, we shall not find reason, perhaps, to claim that most singular of the human virtues as our peculiar privilege. There are numbers of the other sex who, from the natural delicacy of their constitution, pass through one continued scene of suffering from their cradles to their graves, with a firmness of resolution that would deserve so many statues to be erected to their memories, if heroism were not esteemed more by the splendor than the merit of actions.

But whatever real difference there may be between the moral or intellectual powers of the male and female mind, Nature does not seem to have marked the distinction so strongly as our vanity is willing to imagine; and after all, perhaps, education will be found to constitute the principal superiority. It must be acknowledged, at least, that in this article we have every advantage over the softer sex that art and industry can possibly secure to us. The most animating examples of Greece and Rome are set before us, as early as we are capable of any observation; and the noblest compositions of the ancients are given into our hands almost as soon as we have strength to hold them; while the employments of the other sex, at the same period of life, are generally the reverse of every thing that can open and enlarge their minds, or fill them with just and rational notions. The truth of it is, female education is so much worse than none, as it is better to leave the mind to its natural and uninstructed suggestions, than to lead it into false pursuits, and contract its views, by turning them upon the lowest and most trifling objects. We seem, indeed, by the manner in which we suffer the youth of that sex to be trained, to consider women agreeably to the opinion of certain Mahometan doctors, and treat them as if we believed they had no souls: why else are they

Bred only, and completed to the taste
Of lustful appetite, to sing, to dance,
To dress, and troul the tongue, and roll the eye.

MILTON.

This strange neglect of cultivating the female mind can hardly be allowed as good policy, when it is considered how much the interest of society is concerned in the rectitude of their understandings. That season of every man's life which is most susceptible of the strongest impressions, is necessarily under female direction; as there are few instances, perhaps, in which that sex is not one of the secret springs which regulates the most important movements of private or public transactions. What Cato observes of his countrymen is in one respect true of every nation under the sun: "The Romans (said he) govern the world, but it is the women that govern the Romans."

If it be true then (as true beyond all peradventure it is) that female influence is thus extensive, nothing certainly can be of more importance than to give it a proper tendency, by the assistance of a well-directed education. Far are we from recommending any attempts

Sex
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Sextius.

to render women learned; yet surely it is necessary they should be raised above ignorance. Such a general tincture of the most useful sciences as may serve to free the mind from vulgar prejudices, and give it a relish for the rational exercise of its powers, might very justly enter into a plan of female erudition. That sex might be taught to turn the course of their reflections into a proper and advantageous channel, without any danger of rendering them too elevated for the feminine duties of life. In a word, they ought to be considered as designed by Providence for use as well as show, and trained up, not only as women, but as rational creatures.

SEX of Bees. See BEE.

SEX of Plants. See BOTANY, p. 448.

SEXAGENARY, something relating to the number sixty: thus sexagenary or sexagesimal arithmetic is a method of computation proceeding by sixties; such is that used in the division of a degree into sixty minutes, of the minute into sixty seconds, of the second into sixty thirds, &c. Also sexagenary tables are tables of proportional parts, showing the product of two sexagenaries that are to be multiplied, or the quotient of the two that are to be divided.

SEXAGESIMA, the second Sunday before Lent, or the next to Shrove-Sunday, so called as being about the 60th day before Easter.

SEXAGESIMALS, or SEXAGESIMAL Fractions, fractions whose denominators proceed in a sexagecuple ratio; that is, a prime, or the first minute, $= \frac{1}{60}$; a second $= \frac{1}{3600}$; a third $= \frac{1}{216000}$. Anciently, there were no other than sexagesimals used in astronomy; and they are still retained in many cases, though decimal arithmetic begins to grow in use now in astronomical calculations. In these fractions, which some call *astronomical fractions*, the denominator being always 60, or a multiple thereof, is usually omitted, and the numerator only written down: thus, $4^{\circ}, 59', 32'', 50''', 16''''$, is to be read, 4 degrees, 59 minutes, 32 seconds, 50 thirds, 16 fourths, &c.

SEXTANS, SEXTANT, a sixth part of certain things. The Romans having divided their *as* into 12 ounces or uncia, the sixth part of that, or two ounces, was the sextans. — *Sextans* was also a measure which contained two ounces of liquor, or two cyathi.

SEXTANS, in astronomy, a constellation of the southern hemisphere, made by Hevelius out of unformed stars. In Hevelius's catalogue it contains 11, but in the Britannic catalogue 41 stars.

SEXTANT, in mathematics, denotes the sixth part of a circle, or an arch comprehending 60 degrees.

The word *sextant* is more particularly used for an astronomical instrument made like a quadrant, excepting that its limb only comprehends 60 degrees. The use and application of the sextant is the same with that of the quadrant. See QUADRANT; and NAVIGATION, p. 737, &c.

SEXTILE, *sextilis*, the position or aspect of two planets when at 60 degrees distance, or at the distance of two signs from one another. It is marked thus (*). See ASPECT.

SEXTIUS (Quintus), a Pythagorean philosopher, flourished in the time of Augustus. He seemed formed to rise in the republic; but he shrunk from civil honours, and declined accepting the rank of senator when it was offered him by Julius Cæsar, that he might have

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time to apply to philosophy. It appears that he wished to establish a school at Rome, and that his tenets, though chiefly drawn from the doctrines of Pythagoras, in some particulars resembled those of the Stoics.

He soon found himself involved in many difficulties. His laws were tinged with great severity; and in an early period of his establishment, he found his mind so harassed, and the harshness of the doctrines which he wished to establish so repulsive to his feelings, that he had nearly worked himself up to such an height of desperation as to resolve on putting a period to his existence.

Of the school of Sextius were Fabianus, Sotion, Flavianus, Crassitius, and Celsus. Of his works only a few fragments remain; and whether any of them formed a part of the work which Seneca admired so much, cannot now be determined. Some of his maxims are valuable. He recommended an examination of the actions of the day to his scholars when they retired to rest; he taught, that the road to Heaven (*ad astra*) was by frugality, temperance, and fortitude. He used to recommend holding a looking-glass before persons disordered with passion. He enjoined his scholars to abstain from animal food.

SEXTON, a church-officer, thus called by corruption of the Latin *sacrista*, or Saxon *segerstone*, which denotes the same. His office is to take care of the vessels, vestments, &c. belonging to the church; and to attend the minister, church-warden, &c. at church. He is usually chosen by the parson only. Sextons, as well as parish-clerks, are regarded by the common law as persons who have freehold in their offices; and, therefore, though they may be punished, yet they cannot be deprived, by ecclesiastical censures.

The office of sexton in the pope's chapel is appropriated to the order of the hermits of St Augustine. He is generally a bishop, though sometimes the pope only gives a bishopric, *in partibus*, to him on whom he confers the post. He takes the title of *Prefect of the Pope's Sacristy*, and has the keeping the vessels of gold and silver, the relics, &c. When the pope says mass, the sexton always tastes the bread and wine first. If it be in private he says mass, his holiness, of two wafers, gives him one to eat; and, if in public, the cardinal, who assists the pope in quality of deacon, of three wafers, gives him two to eat. When the pope is desperately sick, he administers to him the sacrament of extreme unction, &c. and enters the conclave in quality of first conclavist.

The office of a sexton in Sweden is somewhat singular. During M. Outhier's stay at Stockholm in 1736 he visited the church of St Clara, and during divine service he observed a sexton going about with a long rod, waking those persons who had fallen asleep.

SEXTUPLE, in music, denotes a mixed sort of triple, which is beaten in double time.

SEXTUS EMPIRICUS, a famous Pyrrhonian philosopher, lived in the second century, under the reign of Antoninus the Debonair. He was a physician of the sect of the Empirics, and is said to have been one of the preceptors of Antoninus the philosopher. There are still extant his Pyrrhonian Institutions, and a large work against the mathematicians, &c. The best edition of Sextus Empiricus is that of Fabricius in Greek and Latin, printed at Leipzig in 1718, folio.

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SEX.

Sexton
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Sextus.

Sexualistæ
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Sforza.

SEXUALISTÆ, among botanical writers, those who have established the classes of plants upon the differences of the sexes and parts of fructification in plants, according to the modern method; as Linnæus, &c.

SEZAWUL, a Hindoo word, used in Bengal to express an officer employed at a monthly salary to collect the revenues.

SFORZA (James), was the founder of the illustrious house of Sforza, which acted so conspicuous a part in Italy during the 15th and 16th centuries, which gave six dukes to Milan, and contracted alliances with almost every sovereign in Europe. James Sforza was born on the 28th of May 1369, at Catignola, a small town in Italy, lying between Imola and Faenza. His father was a day-labourer, or, according to Communes, a shoemaker. A company of soldiers happening one day to pass through Catignola, he was seized with the desire of accompanying them to the wars. "I will go (said he to himself), and dart my hatchet against that tree, and if it stick fast in the wood, I will immediately become a soldier." The hatchet accordingly stuck fast, and our adventurer enlisted; and because, says the Abbé de Choisi, he had thrown the axe with all his force, he assumed the name of Sforza; for his true name was Giacomuzzo, or James Attendulo. He rose rapidly in the army, and soon became commander of 7000 men. He defended the cause of Jane II. queen of Naples for many years, and was made constable of her kingdom. He was created Count of Catignola by pope John XXII. by way of paying a debt of 14000 ducats which the church of Rome owed him. His exploits became every day more illustrious: he obliged Alphonso king of Arragon to raise the siege of Naples; and reduced several places that had revolted in Abruzzo and Le Labour; but while in pursuit of his enemies he was unfortunately drowned in the river Aterno on the 3d January 1424, at the age of 54 years. His heroic qualities and the continual wars in which he was engaged, did not hinder him from forming an attachment to the fair sex. In his youth he fell in love with a woman called *Lucia Trezana*, whom he married after she had born him several children. He married afterwards Antoinette Salembini, who brought him several excellent estates; she bore him Bosio Sforza, compte of Santa-Flor, a warrior and governor of Orvietta for Pope Martin V. His third wife was Catharine Alopa, sister of Rodolpho, grand chamberlain to the sovereign of Naples. His last wife, for he was four times married, was Mary Marzana, daughter to the duke of Sessa. She bore him Charles Sforza, who was general of the order of Augustines, and archbishop of Milan.

SFORZA (Francis), the son of James Sforza by Lucia Trezana, was born in 1401, and trained up by his father to the profession of arms. At the age of 23 he defeated the troops of Braccio, who disputed with him the passage of the Aterno. In this action his father was drowned, and Francis, though illegitimate, succeeded him. He fought successfully against the Spaniards, and contributed a great deal both towards raising the siege of Naples, and to the victory which was gained over the troops of Braccio near Aquila in 1425, where that general was killed. After the death of queen Jane, in 1435, he espoused the interests of the duke of Anjou, to whom she had left her crown, and by his courage and abilities ably supported

that unfortunate prince. He made himself master of several places in Ancona, from which he was driven by pope Eugenius IV. who defeated and excommunicated him; but he soon reestablished his affairs by a victory. His reputation was now so great, that the pope, the Venetians, and the Florentines, chose him for their general against the duke of Milan. Sforza had already conducted Venetian armies against that prince, though he had espoused his daughter. The duke dying in 1447, the inhabitants of Milan invited Sforza, his son-in-law, to lead them against that duke. But, after some exertions in their favour, he turned his arms against themselves, laid siege to Milan, and obliged them to receive him as duke, notwithstanding the rights of Charles duke of Orleans, the son of Valentine of Milan. In 1464, Louis XI. who hated Orleans, gave up to Sforza the rights which the crown of France had over Genoa, and even put into his hands Savona, a town belonging to that republic. The duke of Milan soon after made himself master of Genoa. He died in 1466, with the reputation of a man who was willing to sell his blood to the best purchaser, and who was not too scrupulous an observer of his word. His second wife was Blanche Marie, natural daughter of Philip Marie duke of Milan. She bore him Galeas Marie, and Ludovie Marie, dukes of Milan, Philip Marie count of Pavia, Sforza Marie duke of Bari, Ascagne Marie bishop of Pavia and Cremona, and a cardinal. He was taken prisoner by the troops of Louis XII. and confined for some time in the tower of Bourges. He was a cunning man, and deceived Cardinal d'Amboise when that prelate aspired at the papacy. His daughters were Hyppolita, married to Alphonso of Arragon, afterwards king of Naples; and Elizabeth, married to William marquis of Montferrat. He had besides several natural children.

SHACK, in ancient customs, a liberty of winter-pasturage. In the counties of Norfolk and Suffolk, the lord of the manor has shack, *i. e.* a liberty of feeding his sheep at pleasure in his tenants lands during the six winter months. In Norfolk, shack also extends to the common for hogs, in all men's grounds, from the end of harvest till feed-time. Whence to go *a-shack*, is to feed at large.

SHACKLES, aboard a ship, are those oblong iron rings, bigger at one end than at the other, with which the ports are shut fast, by thrusting the wooden bar of the port through them. There is also a sort of shackles to lift the hatches up with, of a like figure, but smaller. They are fastened at the corners of the hatches.

SHAD, in ichthyology, a species of *CLUPEA*.

SHADDOCK, a species of *CITRUS*.

SHADOW, in optics, a privation or diminution of light by the interposition of an opaque body: or it is a plane where the light is either altogether obstructed, or greatly weakened, by the interposition of some opaque body between it and the luminary.

SHADOW, in painting, an imitation of a real shadow, effected by gradually heightening and darkening the colours of such figures as by their dispositions cannot receive any direct rays from the luminary that is supposed to enlighten the piece.

SHADOW, in perspective, the appearance of an opaque body, and a luminous one, whose rays diverge (*e. gr.* a candle, lamp, &c.), being given; to find the just appearance

Sforza
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Shadow.

Shadwell
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Shaftesbury.

pearance of the shadow, according to the laws of perspective. The method is this: From the luminous body, which is here considered as a point, let fall a perpendicular to the perspective plane or table; *i. e.* find the appearance of a point upon which a perpendicular, drawn from the middle of the luminary, falls on the perspective plane; and from the several angles, or raised points of the body, let fall perpendiculars to the plane. These points, whereon the perpendiculars fall, connect by right lines, with the point upon which the perpendicular let fall from the luminary falls; and continue the lines to the side opposite to the luminary. Lastly, through the raised points draw lines through the centre of the luminary, intersecting the former; the points of intersection are the terms or bounds of the shadow.

SHADWELL (Thomas), descended of an ancient family in Staffordshire, was born in 1640, and educated at Caius college, Cambridge. He then was placed in the Middle Temple to study the laws; where having spent some time, he travelled abroad. Upon his return home, he became acquainted with the most celebrated persons of wit in that age. He applied himself chiefly to dramatic writing, in which he had great success; and upon the Revolution was made poet-laureat and historiographer to king William and queen Mary, in the room of Mr Dryden. These employments he enjoyed till his death, which happened in 1692. Beside his dramatic writings, he composed several other pieces of poetry; the chief of which are his congratulatory poem on the prince of Orange's coming to England; another on queen Mary; his translation of Juvenal's 10th satire, &c. Mr Dryden treats him with great contempt, in his satire called *Mac-Fleckno*. The best judges of that age, however, gave their testimony in favour of his comedies; which have in them fine strokes of humour; the characters are often original, strongly marked, and well sustained. An edition of his works, with some account of his life and writings prefixed, was published in 1720, in 4 vols 8vo.

SHAFT of a COLUMN, in building, is the body thereof between the base and capital; so called from its straightness. See ARCHITECTURE.

SHAFT, in mining, is the pit or hollow entrance into the mine. In the tin-mines, after this is sunk about a fathom, they leave a little, long, square place, which is called a *shamble*.

Shafts are sunk some ten, some twenty fathoms deep into the earth, more or less. Of these shafts, there is the landing or working shaft, where they bring up the work or ore to the surface; but if it be worked by a horse engine or whim, it is called a *whim-shaft*; and where the water is drawn out of the mine, it is indifferently named an *engine-shaft*, or the *rod-shaft*. See MINE.

SHAFT, in ornithology. See TROCHILUS.

SHAFTESBURY, a town of Dorsetshire in England, in W. Long. 2. 20. N. Lat. 51. 0. It stands on a high hill, and is built in the form of a bow. It enjoys a serene wholesome air, and has a fine prospect. It is a good thoroughfare, is governed by a mayor, and sends two members to parliament. This town is supposed to have been built in the 8th century, and to have been enlarged by king Alfred, and had 12 churches, besides a Benedictine monastery, in the time of the Saxons, but has now only three. St Edward the martyr was

buried here. It had three mints before the conquest, Shaftesbury and, in the reign of Henry VIII. was the see of a suffragan bishop. It was incorporated by queen Elizabeth and Charles II. and is governed by a mayor, recorder, twelve aldermen, bailiffs, and a common-council. It contains about 320 houses, many of which are of free-stone. Water is so scarce, that it used to be supplied from Motcomb; but it was obtained more commodiously in 1718, by means of engines, which raised the water above 300 feet perpendicular, and conveyed it to a large cistern in the middle of the town, from the distance of two miles. Yet even this is laid aside, and they have dug several pits, in which they preserve the rain-water; and the poor get their living to this day by fetching it in pails or on horses. It gives the title of earl to the noble family of Cooper.

SHAFTESBURY (earl of). See COOPER.

SHAG, in ornithology. See PELICANUS.

SHAGREEN, or CHAGREEN, in commerce, a kind of grained leather prepared of the skin of a species of *SQUALUS*, much used in covering cases, books, &c.

Manner of preparing SHAGREEN. The skin, being flayed off, is stretched out, covered over with mustard-feed, and the feed bruised on it; and thus it is exposed to the weather for some days, and then tanned.

The best is that brought from Constantinople, of a brownish colour; the white is the worst. It is extremely hard; yet, when steeped in water, it becomes very soft and pliable; whence it is of great use among case-makers. It takes any colour that is given it, red, green, yellow, or black. It is frequently counterfeited by morocco, formed like shagreen; but this last is distinguished by its peeling off, which the first does not.

SHAIK properly signifies an old man. In the east it is used to denote a lord or chief, a man of eminence and property. See SCHIECHS.

SHAKE, in singing. See TRILL.

SHAKESPEARE or SHAKSPEARE (William), the prince of dramatic writers, was born at Stratford upon Avon in Warwickshire, on the 23d of April 1564. From the register of that town, it appears that a plague broke out there on the 30th of June following, which raged with great violence; but fortunately it did not reach the house in which this infant prodigy lay. His father, John Shakespeare, enjoyed a small patrimonial estate, and was a considerable dealer in wool; his mother was the daughter and heir of Robert Arden of Wellcote. Our illustrious poet being designed for the business of his father, received no better education than the instructions which the free-school of Stratford could afford. After applying some time to the study of Latin, he was called home to assist his father, who seems by some accident to have been reduced in his circumstances. Before arriving at the age of 19, he married the daughter of Mr Hathaway, a substantial yeoman in the neighbourhood of Stratford. This lady was eight years older than her husband. Having the misfortune to fall into bad company, he was seduced into some profligate actions, which drew on him a criminal prosecution, and at length forced him to take refuge in the capital. In concert with his associates, he broke into a park belonging to Sir Thomas Lucy of Charlecote, and carried off some of his deer. Every admirer of Shakespeare will regret that such a blemish should have stained his character:

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Shake-
speare.

but, perhaps, if any thing can extenuate his guilt, we might ascribe it to the opinions of the age, which, perhaps, as was formerly the case in Scotland, might not distinguish the killing of deer by any mark of disgrace, or any charge of criminality. One thing at least is certain, that Shakespeare himself thought that the prosecution which Sir Thomas raised against him was carried on with too great severity; an opinion which he could not have entertained had this action been at that time viewed in the same criminal light as it is at present. Shakespeare testified his resentment against Sir Thomas, by writing a satirical ballad, which exasperated him so much, that the process was carried on with redoubled violence; and the young poet, in order to avoid the punishment of the law, was obliged to make his escape. This ballad would be considered as a curious relic, on account of its being the first production of Shakespeare; it would also be interesting to peruse a poem which could irritate the baronet to so high a degree. Tradition has preserved the first stanza:

A parlamente member, a justice of peace,
At home a poor scare-crow, at London an asse.
If lowfie is Lucy, as some volke miscale it,
Then Lucy is lowfie whatever befall it:
He thinks himself greate,
Yet an asse in his state,
We allowe by his ears, but with asses to mate.
If Lucy is lowfie, as some volke miscale it,
Sing lowfie Lucy whatever befall it.

If the rest of the ballad was of a piece with this stanza, it might assist us to form some opinion of the irritability of the baronet, but will enable us to form no idea of the opening genius of Shakespeare.

Thus expelled from his native village, he repaired to London, where he was glad to accept a subordinate office in the theatre. It has been said that he was first engaged, while the play was acting, in holding the horses of those who rode to the theatre; but this story rests on a slender foundation. As his name is found printed among those of the other players before some old plays, it is probable that he was some time employed as an actor; but we are not informed what characters he played; we are only told, that the part which he acted best was that of the Ghost in Hamlet; and that he appeared in the character of Adam in *As you like it*. If the names of the actors prefixed to Ben Jonson's play of *Every Man in his Humour* were arranged in the same order as the persons represented, which is very probable, Shakespeare played the part of Old Knowell. We have reason therefore to suppose, as far as we can argue from these few facts, that he generally represented old men. See Malone's Chronology, in his edition of Shakespeare.

But though he was not qualified to shine as an actor, he was now in the situation which could most effectually rouse those latent sparks of genius which afterwards burst forth with so resplendent a flame. Being well acquainted with the mechanical business of the theatre and the taste of the times; possessed of a knowledge of the characters of men resembling intuition, an imagination that ranged at large through nature, selecting the grand, the sublime, and the beautiful; a judicious caution, that disposed him to prefer those plots which had already been found to please; an uncommon

fluency and force of expression; he was qualified at once to eclipse all who had gone before him.

Notwithstanding the unrivalled genius of Shakespeare, most of his plots were the invention of others; which, however, he certainly much improved, if he did not entirely new-model. We are assured, that prior to the theatrical compositions of Shakespeare, dramatic pieces were written on the following subjects, viz. King John, King Richard II. and III. King Henry IV. and V. King Henry VIII. King Lear, Antony and Cleopatra, Measure for Measure, the Merchant of Venice, the Taming of a Shrew, and the Comedy of Errors.

Among his patrons, the earl of Southampton is particularly honoured by him, in the dedication of two poems, *Venus and Adonis*, and *Lucrece*; in the latter especially, he expressed himself in such terms as gives countenance to what is related of that patron's distinguished generosity to him. In the beginning of king James I.'s reign (if not sooner) he was one of the principal managers of the playhouse, and continued in it several years afterwards; till, having acquired such a fortune as satisfied his moderate wishes and views in life, he quitted the stage, and all other business, and passed the remainder of his time in an honourable ease, at his native town of Stratford, where he lived in a handsome house of his own purchasing, to which he gave the name of *New Place*; and he had the good fortune to save it from the flames in the dreadful fire that consumed the greatest part of the town in 1614.

In the beginning of the year 1616, he made his will, wherein he testified his respect to his quondam partners in the theatre: he appointed his youngest daughter, jointly with her husband, his executors, and bequeathed to them the best part of his estate, which they came into the possession of not long after. He died on the 23d of April following, being the 53d year of his age; and was interred among his ancestors on the north side of the chancel, in the great church of Stratford, where there is a handsome monument erected for him, inscribed with the following elegiac distich in Latin:

*Judicio Pylium, genio Socratem, arte Maronem,
Terra tegit, Populus mare, Olympus habet.*

In the year 1740, another very noble one was raised to his memory, at the public expence, in Westminster-abbey; an ample contribution for this purpose being made upon exhibiting his tragedy of *Julius Cæsar*, at the theatre-royal in Drury-Lane, April 28th 1738.

Nor must we omit mentioning another testimony of the veneration paid to his manes by the public in general, which is, that a mulberry-tree planted upon his estate by the hands of this reverend bard, was cut down not many years ago; and the wood being converted to several domestic uses, was all eagerly bought at a high price, and each single piece treasured up by its purchaser as a precious memorial of the planter.

The character of Shakespeare as a dramatic writer has been often drawn, but perhaps never with more accuracy than by the pen of Dr Johnson: "Shakespeare (says he) is above all writers, at least above all modern writers, the poet of nature; the poet that holds up to his readers a faithful mirror of manners and of life.

Shake-
speare.

His characters are not modified by the customs of particular places, unpractised by the rest of the world; by the peculiarities of studies or professions, which can operate but upon small numbers; or by the accidents of transient fashions or temporary opinions: they are the genuine progeny of common humanity, such as the world will always supply, and observation will always find. His persons act and speak by the influence of those general passions and principles by which all minds are agitated, and the whole system of life is continued in motion. In the writings of other poets, a character is too often an individual; in those of Shakespeare, it is commonly a species.

"It is from this wide extension of design that so much instruction is derived. It is this which fills the plays of Shakespeare with practical axioms and domestic wisdom. It was said of Euripides, that every verse was a precept; and it may be said of Shakespeare, that from his works may be collected a system of civil and economical prudence. Yet his real power is not shown in the splendor of particular passages, but by the progress of his fable, and the tenor of his dialogue; and he that tries to recommend him by select quotations, will succeed like the pedant in Hierocles, who, when he offered his house to sale, carried a brick in his pocket as a specimen.

"Upon every other stage the universal agent is love, by whose power all good and evil is distributed, and every action quickened or retarded. But love is only one of many passions; and as it has no great influence upon the sum of life, it has little operation in the dramas of a poet who caught his ideas from the living world, and exhibited only what he saw before him. He knew that any other passion, as it was regular or exorbitant, was a cause of happiness or calamity.

"Characters thus ample and general were not easily discriminated and preserved; yet perhaps no poet ever kept his personages more distinct from each other.

"Other dramatists can only gain attention by hyperbolical or aggravated characters, by fabulous and unexampled excellence or depravity, as the writers of barbarous romances invigorated the reader by a giant and a dwarf; and he that should form his expectations of human affairs from the play, or from the tale, would be equally deceived. Shakespeare has no heroes, his scenes are occupied only by men, who act and speak as the reader thinks that he should himself have spoken or acted on the same occasion: Even where the agency is supernatural, the dialogue is level with life. Other writers disguise the most natural passions and most frequent incidents; so that he who contemplates them in the book will not know them in the world: Shakespeare approximates the remote, and familiarizes the wonderful; the event which he represents will not happen, but if it were possible, its effects would probably be such as he has assigned; and it may be said, that he has not only shown human nature as it acts in real exigencies, but as it would be found in trials to which it cannot be exposed.

"This therefore is the praise of Shakespeare, that his drama is the mirror of life; that he who has mazed his imagination, in following the phantoms which other writers raise up before him, may here be cured of his delirious ecstasies, by reading human sentiments in human language; by scenes from which a hermit may esti-

mate the transactions of the world, and a confessor predict the progress of the passions."

The learning of Shakespeare has frequently been a subject of inquiry. That he possessed much classical knowledge does not appear, yet he was certainly acquainted with the Latin poets, particularly with Terence, as Colman has justly remarked, which appears from his using the word *thrafonical*. Nor was he unacquainted with French and Italian. We are indeed told, that the passages in which these languages occur might be impertinent additions of the players; but it is probable, that any of the players so far surpassed Shakespeare?

That much knowledge is scattered over his works is very justly observed by Pope; but it is often such knowledge as books did not supply. "There is, however, proof enough (says Dr Johnson) that he was a very diligent reader; nor was our language then so indigent of books, but that he might very liberally indulge his curiosity without excursion into foreign literature. Many of the Roman authors were translated, and some of the Greek; the Reformation had filled the kingdom with theological learning; most of the topics of human disquisition had found English writers; and poetry had been cultivated, not only with diligence, but success. This was a stock of knowledge sufficient for a mind so capable of appropriating and improving it."

The works of Shakespeare consist of 35 dramatic pieces. The following is the chronological order which Mr Malone has endeavoured to establish, after a minute investigation, in which he has in general been successful:

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| 1. First Part of King Henry VI. | - | 1589 |
| 2. Second Part of King Henry VI. | - | 1591 |
| 3. Third Part of King Henry VI. | - | 1591 |
| 4. A Midsummer Night's Dream | - | 1592 |
| 5. Comedy of Errors | - | 1593 |
| 6. Taming of the Shrew | - | 1594 |
| 7. Love's Labour Lost | - | 1594 |
| 8. Two Gentlemen of Verona | - | 1595 |
| 9. Romeo and Juliet | - | 1595 |
| 10. Hamlet | - | 1596 |
| 11. King John | - | 1596 |
| 12. King Richard II. | - | 1597 |
| 13. King Richard III. | - | 1597 |
| 14. First Part of King Henry IV. | - | 1597 |
| 15. Second Part of King Henry IV. | - | 1598 |
| 16. The Merchant of Venice | - | 1598 |
| 17. All's Well that Ends Well | - | 1598 |
| 18. King Henry V. | - | 1599 |
| 19. Much Ado About Nothing | - | 1600 |
| 20. As you like it | - | 1600 |
| 21. Merry Wives of Windsor | - | 1601 |
| 22. King Henry VIII. | - | 1601 |
| 23. Troilus and Cressida | - | 1602 |
| 24. Measure for Measure | - | 1603 |
| 25. The Winter's Tale | - | 1604 |
| 26. King Lear | - | 1605 |
| 27. Cymbeline | - | 1605 |
| 28. Macbeth | - | 1606 |
| 29. Julius Caesar | - | 1607 |
| 30. Antony and Cleopatra | - | 1608 |
| 31. Timon of Athens | - | 1609 |
| 32. Coriolanus | - | 1610 |

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33. Othello 1611
 34. The Tempest 1612
 35. Twelfth Night 1614

The three first of these, Mr Malone thinks, there is very strong reason to believe are not the original productions of Shakespeare; but that he probably altered them, and added some new scenes.

In the first folio edition in 1623, these plays were entitled "Mr William Shakespeare's Comedies, Histories, and Tragedies." They have been published by various editors. The first folio edition by Isaac Jaggard and Edward Blount; the second, folio, 1632, by Thomas Cotes for Robert Allot; the third, 1664, for P. C.; the fourth, 1685, for H. Herringman, E. Brewster, and R. Bentley. Rowe published an 8vo edition in 1709, in 7 vols, and a 12mo edition in 1714, in 9 vols; for which he received L. 36, 10s. Pope published a 4to edition in 1725, in 6 vols, and a 12mo in 1728, in 10 vols; for which he was paid L. 217, 12s. Theobald gave a new edition in 8vo in 1733, in 7 vols, another in 12mo in 1740, in 8 vols; and received for his labour L. 652, 10s. Sir Thomas Hanmer published an edition in 1744, in 6 vols 4to. Dr Warburton's 8vo edition came out in 1747, in 8 vols; for which he was paid L. 560. The editions published since that time, are Dr Johnson's in 1765, in 8 vols 8vo. Stevens's in 1766, in 4 vols 8vo. Capell's in 1768, in 10 vols, crown 8vo; for this the author was paid L. 300. A second edition of Hanmer's in 1771, 6 vols. Johnson's and Stevens's in 1773, in 10 vols 8vo; a second edition in 1778; a third by Reed in 1785; and Malone's crown 8vo edition in 1789, in 10 vols.

The most authentic of the old editions is that of 1623. "At last (says Dr Johnson) an edition was undertaken by Rowe; not because a poet was to be published by a poet, for Rowe seems to have thought very little on correction or explanation, but that our author's works might appear like those of his fraternity, with the appendages of a life and commendatory preface. Rowe has been clamorously blamed for not performing what he did not undertake, and it is time that justice be done him, by confessing, that though he seems to have had no thought of corruption beyond the printer's errors, yet he has made many emendations, if they were not made before, which his successors have received without acknowledgment, and which, if they had produced them, would have filled pages with censures of the stupidity by which the faults were committed, with displays of the absurdities which they involved, with ostentatious expositions of the new reading, and self-congratulations on the happiness of discovering it."

The nation had been for many years content enough with Mr Rowe's performance, when Mr Pope made them acquainted with the true state of Shakespeare's text, showed that it was extremely corrupt, and gave reason to hope that there were means of reforming it. Mr Pope's edition, however, he observes, fell below his own expectations; and he was so much offended, when he was found to have left any thing for others to do, that he passed the latter part of his life in a state of hostility with verbal criticism.

The only task, in the opinion of Mr Malone, for which Pope was eminently and indisputably qualified,

was to mark the faults and beauties of his author.— When he undertook the office of a commentator, every anomaly of language, and every expression that was currently in use, were considered as errors or corruptions, and the text was altered or amended, as it was called, at pleasure. Pope is openly charged with being one of the great corrupters of Shakespeare's text.

Pope was succeeded by Theobald, who collated the ancient copies, and rectified many errors. He was, however, a man of narrow comprehension and of little learning, and what is worse, in his reports of copies and editions, he is not to be trusted without examination. From the liberties taken by Pope, the edition of Theobald was justly preferred, because he professed to adhere to the ancient copies more strictly, and illustrated a few passages by extracts from the writers of our poet's age. Still, however, he was a considerable innovator; and while a few arbitrary changes made by Pope were detected, innumerable sophistications were silently adopted.

Sir Thomas Hanmer, who comes next, was a man of critical abilities, and of extensive learning. His corrections are commonly just, but sometimes capricious. He is censurable, too, for receiving without examination almost all the innovations of Pope.

The original and predominant error of Warburton's commentary, is acquiescence in his first thoughts; that precipitation which is produced by consciousness of quick discernment; and that confidence which presumes to do, by surveying the surface, what labour only can perform, by penetrating to the bottom. His notes exhibit sometimes perverse interpretations, and sometimes improbable conjectures; he at one time gives the author more profundity of meaning than the sentence admits, and at another discovers absurdities where the sense is plain to every other reader. But his emendations are likewise often happy and just; and his interpretation of obscure passages learned and sagacious.

It has indeed been said by his defenders, that his great object was to display his own learning; and certainly, in spite of the clamour raised against him for substituting his own chimerical conceits instead of the genuine text of Shakespeare, his work increased his reputation. But as it is of little value as a commentary on Shakespeare, since Warburton is now gone, his work will probably soon sink into oblivion.

In 1765 Dr Johnson's edition, which had long been impatiently expected, was given to the public. His vigorous and comprehensive understanding threw more light on his author than all his predecessors had done. The character which he gave of each play is generally just. His refutation of the false glosses of Theobald and Warburton, and his numerous explications of involved and difficult passages, entitle him to the gratitude of every admirer of Shakespeare.

The last editor is Mr Malone, who was eight years employed in preparing his edition. By collating the most authentic copies, he has been careful to purify the text. He has been so industrious, in order to discover the meaning of the author, that he has ransacked many volumes, and trusts that, besides his additional illustrations, not a single valuable explication of any obscure passage in these plays has ever appeared, which he has not inserted in his edition. He rejects Titus Andronicus, as well as the three plays formerly mentioned, as

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not being the authentic productions of Shakespeare. To the whole he has added an appendix, and a copious glossary.—Of this work a less expensive edition has been published in 7 vols 12mo, in which the general introductory observations prefixed to the different plays are preserved, and the numerous notes abridged.

This judicious commentator has certainly done more for the elucidation and correction of Shakespeare than all who came before him, and has followed with indefatigable patience the only road which a commentator of Shakespeare ought to observe.

Within 50 years after our poet's death, Dryden says that he was become "a little obsolete;" and in the beginning of the present century Lord Shaftesbury complains of his rude unpolished style, and his antiquated phrase and wit. These complaints were owing to the great revolution which the English language has undergone, and to the want of an enlightened commentator. These complaints are now removed, for an enlightened commentator has been found in Mr Malone.

We have only farther to add, that in the year 1790 a copious index to the remarkable passages and words in the plays of Shakespeare was published by the Reverend Mr Ayscough; a gentleman to whom the literary world is much indebted for several very valuable keys of knowledge. In fine, the admirers of Shakespeare are now, by the labours of several eminent men, furnished with every help that can enable them to understand the sense and to taste the beauties of this illustrious poet.

SHAKLES. See SHACKLES.

SHALE, in natural history, a species of SCHISTUS. It is a black stony substance, or a clay hardened into a stony consistence, and so much impregnated with bitumen that it becomes somewhat like a coal. The acid emitted from shale, during its calcination, uniting itself to the argillaceous earth of the shale, forms alum. About 120 tons of calcined shale will make one ton of alum. The shale, after being calcined, is steeped in water, by which means the alum, which is formed during the calcination of the shale, is dissolved: this dissolved alum undergoes various operations before it is formed into the alum of the shops. Watson's Chemical Essays, vol. ii. p. 315. See ALUM.

This kind of slate forms large strata in Derbyshire; and that which lies near the surface of the earth is of a softer and more shivery texture than that which lies deeper. It is also found in large strata, generally above the coal, in most coal counties of this kingdom. Dr Short informs us, that the shale wastes the lead ore near it, by its strong acid; and that it corrodes and destroys all minerals near it except iron or coal, of whose vitriol it partakes.

SHALLOP, SHALLOOF, or SLOOP, is a small light vessel, with only a small main-mast, and fore-mast, and lug-sails, to hale up, and let down, on occasion.—Shallops are commonly good sailers, and are therefore often used as tenders upon men of war.

SHALLOT, or ESCHALOT. See ALLIUM.

SHAMANS are wizards or conjurers, in high repute among several idolatrous nations inhabiting different parts of Russia. By their enchantments they pretend to cure diseases, to divert misfortunes, and to foretel futurity. They are great observers of dreams, by the interpretation of which they judge of their good

or bad fortune. They pretend likewise to chiromancy, and to foretel a man's good or ill success by the lines of his hand. By these and such like means they have a very great ascendancy over the understandings, and a great influence on the conduct, of those people.

SHAMBLES, among miners, a sort of niches or landing places, left at such distances in the adits of the mines, that the shovel-men may conveniently throw up the ore from shamble to shamble, till it comes to the top of the mine.

SHAMOIS, CHAMOIS, or SHAMMY, a kind of leather, either dressed in oil or tanned, much esteemed for its softness, pliancy, &c. It is prepared from the skin of the chamois, or shamois, a kind of rupicapra, or wild goat, called also isard, inhabiting the mountains of Dauphiny, Savoy, Piedmont, and the Pyrenees. Besides the softness and warmth of the leather, it has the faculty of bearing soap without damage; which renders it very useful on many accounts.

In France, &c. some wear the skin raw, without any preparation. Shammy leather is used for the purifying of mercury, which is done by passing it through the pores of this skin, which are very close. The true chamois leather is counterfeited with common goat, kid, and even with sheep skins, the practice of which makes a particular profession, called by the French *chamoisure*. The last, though the least esteemed, is yet so popular, and such vast quantities of it are prepared, especially about Orleans, Marseilles, and l'holouse, that it may not be amiss to give the method of preparation.

Manner of shamoying, or of preparing sheep, goat, or kid skins in oil, in imitation of shammy.—The skins, being washed, drained, and smeared over with quicklime on the fleshy side, are folded in two lengthwise, the wool outwards, and laid on heaps, and so left to ferment eight days, or, if they had been left to dry after flaying, then fifteen days.

Then they are washed out, drained, and half dried; laid on a wooden leg, or horse, the wool stripped off with a round staff for that purpose, and laid in a weak pit, the lime whereof had been used before, and has lost the greatest part of its force.

After 24 hours they are taken out, and left to drain 24 more; they are then put in another stronger pit. This done, they are taken out, drained, and put in again, by turns; which begins to dispose them to take oil; and this practice they continue for six weeks in summer, or three months in winter: at the end whereof they are washed out, laid on the wooden leg, and the surface of the skin on the wool side peeled off, to render them the softer; then made into parcels, steeped a night in the river, in winter more, stretched six or seven over one another on the wooden leg, and the knife passed strongly on the flesh side, to take off any thing superfluous, and render the skin smooth. Then they are steeped, as before, in the river, and the same operation is repeated on the wool side; they are then thrown into a tub of water, with bran in it, which is brewed among the skins till the greatest part sticks to them, and then separated into distinct tubs, till they swell, and rise of themselves above the water. By this means the remains of the lime are cleared out; they are then wrung out, hung up to dry on ropes, and sent to the mill, with the quantity of oil necessary to scour them: the best oil is that of stock-fish. Here they are first thrown in bundles

Shambles,
Shamois.

Shamois
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Shannon.

bundles into the river for 12 hours, then laid in the mill-trough, and fulled without oil till they be well softened; then oiled with the hand, one by one, and thus formed into parcels of four skins each; which are milled and dried on cords a second time; then a third; and then oiled again, and dried. This process is repeated as often as necessity requires; when done, if there be any moisture remaining, they are dried in a stove, and made up into parcels wrapped up in wool; after some time they are opened to the air, but wrapped up again as before, till such time as the oil seems to have lost all its force, which it ordinarily does in 24 hours. The skins are then returned from the mill to the chamoiser to be scoured: which is done by putting them in a lixivium of wood-ashes, working and beating them in it with poles, and leaving them to steep till the ley hath had its effect; then they are wrung out, steeped in another lixivium, wrung again; and this is repeated till all the grease and oil be purged out. When this is done, they are half dried, and passed over a sharp-edged iron instrument, placed perpendicular in a block, which opens, softens, and makes them gentle. Lastly, they are thoroughly dried, and passed over the same instrument again; which finishes the preparation, and leaves them in form of shammy.

Kid and goat skins are shamoised in the same manner as those of sheep, excepting that the hair is taken off without the use of any lime; and that when brought from the mill they undergo a particular preparation called *ramalling*, the most delicate and difficult of all the others. It consists in this, that, as soon as brought from the mill, they are steeped in a fit lixivium, taken out, stretched on a round wooden leg, and the hair is scraped off with the knife; this makes them smooth, and in working to cast a kind of fine knap. The difficulty is in scraping them evenly.

SHANK, or *SHANK-Painter*, in a ship, is a short chain fastened under the foremast-shrouds, by a bolt, to the ship's sides, having at the other end a rope fastened to it. On this shank-painter the whole weight of the aft part of the anchor rests, when it lies by the ship's side. The rope, by which it is hauled up, is made fast about a timber-head.

SHANK, in the manege, that part of a horse's fore-leg which lies between the knee and the fetlock.

SHANKER, or CHANCER, in medicine, a malignant ulcer, usually occasioned by some venereal disorder. See MEDICINE, n^o 350.

SHANNON, the largest river in Ireland, and one of the finest in the British dominions, not only on account of its rolling 200 miles, but also of its great depth in most places, and the gentleness of its current, by which it might be made exceedingly serviceable to the improvement of the country, the communication of its inhabitants, and consequently the promoting of inland trade, through the greatest part of its long course. But the peculiar prerogative of the Shannon is its situation, running from north to south, and separating the province of Connaught from Leinster and Munster, and of consequence dividing the greatest part of Ireland into what lies on the east and that on the west of the river; watering in its passage the valuable county of Leitrim, the plentiful shire of Roscommon, the fruitful county of Galway, and the pleasant county of Clare; the small but fine shire of Longford, the King's coun-

ty, and fertile county of Meath in Leinster, the populous county of Tipperary, the spacious shire of Limerick, and the rough but pleasant county of Kerry in Munster; visiting 10 counties in its passage, and having on its banks the following remarkable places, viz. Leitrim, Jamestown, Lanesborough, Athlone, Clonsfert, Killaloe, and Limerick; at 20 leagues below the latter it spreads gradually several miles in extent, so that some have considered its expansion as a lake. It at last joins its waters to the sea, being navigable all that way for the largest vessels.

SHANSCRIT, the language of the Bramins of Hindostan. See PHILOLOGY, sect. v.

SHARE of a *Plough*, that part which cuts the ground; the extremity forwards being covered with a sharp-pointed iron, called the *point of the share*, and the end of the wood behind the *tail of the share*.

SHARK, in ichthyology. See SQUALUS.

SHARON, a name common to three cantons of Palestine. The first lay between mount Tabor and the sea of Tiberias; the second between the city of Casarea of Palestine, and Joppa; and the third lay beyond Jordan. To give an idea of perfect beauty, Isaiah said, the glory of Lebanon and the beauty of Carmel must be joined to the abundance of Sharon. (Isaiah xxxiii. 9. xxxi. 2.) The plains of Sharon are of vast extent; and, when surveyed by the Abbé Mariti a few years ago, they were sown with cucumbers; and he informs us, that such a number is annually produced, as not only to supply the whole neighbourhood, but also all the coasts of Cyprus and the city of Damietta. In the middle of the plain, between Arsus and Lydda, rises a small mountain, upon the ridge of which there is a small village called Sharon, from the name of the ancient city whose king was conquered by Joshua.

SHARP (James), archbishop of St Andrew's, was born of a good family in Banffshire in 1618. He devoted himself very early to the church, and was educated for that purpose in the University of Aberdeen. When the solemn league and covenant was framed in 1638, the learned men in that seminary, and young Sharp in particular, declared themselves decidedly against it. To avoid the insults and indignities to which he was subjected in consequence of this conduct, he retired to England, where he contracted an acquaintance with some of the most celebrated divines in that country.

At the commencement of the civil wars he returned to Scotland. During his journey thither, he accidentally met with Lord Oxenford, who was so charmed with his conversation, that he invited him to his house. While he resided with that nobleman, he became known to the earl of Rothes, who procured him a professorship at St Andrew's. By the interest of the earl of Crawford he was soon after appointed minister of Crail; where he conducted himself, it is said, in an exemplary manner.

Sharp had always inclined to the cause of royalty, and had for some time kept up a correspondence with his exiled prince. After the death of the protector he began to declare himself more openly, and seems to have enjoyed a great share of the confidence of Monk, who was at that time planning the restoration of Charles II. When that general marched to London, the presbyterians sent Sharp to attend him in order to support their interests. At the request of general Monk and the chief presbyterians in Scotland, Mr Sharp was so trea-

Shanscrit
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Sharp.

Sharp.

ter sent over to the king at Breda to procure from him, if possible, the establishment of presbyterianism. On his return, he assured his friends that "he had found the king very affectionate to Scotland, and resolved not to wrong the settled government of the church: but he apprehended they were mistaken who went about to establish the presbyterian government."

Charles was soon after restored without any terms. All the laws passed in Scotland since the year 1633 were repealed; the king and his ministers resolved at all hazards to restore prelacy. Mr Sharp, who had been commissioned by the Scotch presbyterians to manage their interests with the king, was prevailed upon to abandon the party; and, as a reward for his compliance, he was made archbishop of St Andrew's. This conduct rendered him very odious in Scotland; he was accused of treachery and perfidy, and reproached by his old friends as a traitor and a renegade. The absurd and wanton cruelties which were afterwards committed, and which were imputed in a great measure to the archbishop, rendered him still more detested. Nor is it probable that these accusations were without foundation: the very circumstance of his having been formerly of the presbyterian party would induce him, after forsaking them, to treat them with severity. Besides, it is certain, that when after the rout at Pentland-hills he received an order from the king to stop the executions, he kept it for some time before he produced it to council.

There was one Mitchell a preacher, and a desperate fanatic, who had formed the design of taking vengeance for these cruelties by assassinating the archbishop. He fired a pistol at him as he was sitting in his coach; but the bishop of Orkney, lifting up his hand at the moment, intercepted the ball. Though this happened in the midst of Edinburgh, the primate was so much detested, that nobody stopped the assassin; who, having walked leisurely home, and thrown off his disguise, returned, and mixed unsuspected with the crowd. Some years after, the archbishop observing a man eyeing him with keenness, suspected that he was the assassin, and ordered him to be brought before him. It was Mitchell. Two loaded pistols were found in his pocket. The primate offered him a pardon if he would confess the crime: the man complied; but Sharp, regardless of his promise, conducted him to the council. The council also gave him a solemn promise of pardon if he would confess his guilt, and discover his accomplices. They were much disappointed to hear that only one man was privy to his purpose, who was since dead. Mitchell was then brought before a court of justice, and ordered to make a third confession, which he refused. He was imprisoned for several years, and then tried. His own confession was urged against him. It was in vain for him to plead the illegality of that evidence, and to appeal to the promise

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of pardon previously given. The council took an oath that they had given no such promise; and Mitchell was condemned. Lauderdale, who at that time governed Scotland, would have pardoned him, but the primate insisted on his execution; observing, that if assassins were permitted to go unpunished, his life must be continually in danger. Mitchell was accordingly executed.

Sharp had a servant, one Carmichael, who by his cruelty had rendered himself particularly odious to the zealots. Nine men formed the resolution of waylaying him in Magus-muir, about three miles from St Andrew's. While they were waiting for this man, the primate himself appeared with very few attendants. This they looked upon as a declaration of heaven in their favour; and calling out, "the Lord has delivered him into our hands," they ran up to the carriage. They fired at him without effect; a circumstance which was afterwards imputed to magic. They then dispatched him with their swords, regardless of the tears and intreaties of his daughter, who accompanied him (A).

Thus fell archbishop Sharp, whose memory is even at present detested by the common people of Scotland. His abilities were certainly good, and in the early part of his life he appears with honour and dignity. But his conduct afterwards was too cruel and insincere to merit approbation. His treatment of Mitchell was mean and vindictive. How far he contributed to the measures adopted against the presbyterians is not certain. They were equally cruel and impolitic; nor did their effects cease with the measures themselves. The unheard-of cruelties exercised by the ministers of Cha. II. against the adherents of the covenant, raised such a flame of enthusiasm and bigotry as is not yet entirely extinguished.

SHARP (Dr John), archbishop of York, was descended from the Sharps of Little Norton, a family of Bradford Dale in Yorkshire; and was son of an eminent tradesman of Bradford, where he was born in 1644. He was educated at Cambridge, and in 1667 entered into orders. That same year he became domestic chaplain to Sir Heneage Finch, then attorney-general. In 1672 he was collated to the archdeaconry of Berkshire. In 1675 he was installed a prebendary in the cathedral church of Norwich; and the year following was instituted into the rectory of St Bartholomew near the Royal Exchange, London. In 1681 he was, by the interest of his patron Sir Heneage Finch, then lord high chancellor of England, made dean of Norwich; but in 1686 was suspended for taking occasion, in some of his sermons, to vindicate the doctrine of the church of England in opposition to Popery. In 1688 he was sworn chaplain to king James II. being then probably restored after his suspension; for it is certain that he was chaplain to king Charles II. and attended as a court cha-

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plain

(A) Such is the account given by all our historians of the murder of archbishop Sharp; and that he fell by the hands of fanatics, whom he persecuted, is certain. A tradition, however, has been preserved in different families descended from him, which may be mentioned, and is in itself certainly not incredible. The primate, it seems, who, when minister of Crail, was peculiarly severe in punishing the sin of fornication, had, in the plenitude of his archiepiscopal authority, taken notice of a criminal amour carried on between a nobleman high in office and a lady of some fashion who lived within his diocese. This interference was in that licentious age deemed very impertinent; and the archbishop's descendants believe that the proud peer instigated the deluded rabble to murder their ancestor.

Sharp,
Shafter.

plain at the coronation of king James II. In 1689 he was declared dean of Canterbury; but never could be persuaded to fill up any of the vacancies made by the deprived bishops. Upon the death of Dr Lamplugh, he was promoted to the see of York. In 1702 he preached the sermon at the coronation of queen Anne; and the same year was sworn of the privy-council, and made lord almoner to her majesty. He died at Bath in 1713; and was interred in the cathedral of York, where a monument is erected to his memory.—His sermons, which were collected after his death and published in 7 vols 8vo, are justly admired.

SHARP, in music. See INTERVAL.

SHASTER, or BEDANG, the name of a sacred book, in high estimation among the idolaters of Hindostan, containing all the dogmas of the religion of the bramins, and all the ceremonies of their worship; and serving as a commentary on the VEDAM.

The term *Shafter* denotes "science" or "system;" and is applied to other works of astronomy and philosophy, which have no relation to the religion of the Indians. None but the bramins and rajahs of India are allowed to read the Vedam; the priests of the Banians, called *Shuderers*, may read the Shafter; and the people, in general, are allowed to read only the Paran or Pauran, which is a commentary on the Shafter.

The Shafter is divided into three parts: the first containing the moral law of the Indians; the second, the rites and ceremonies of their religion; and the third, the distribution of the people into tribes or classes, with the duties pertaining to each class.

The principal precepts of morality contained in the first part of the Shafter are the following: that no animal be killed, because the Indians attribute souls to brute animals as well as to mankind; that they neither hear nor speak evil, nor drink wine, nor eat flesh, nor touch any thing that is unclean; that they observe the feasts, prayers, and washings, which their law prescribes; that they tell no lies, nor be guilty of deceit in trade; that they neither oppress nor offer violence to one another; that they celebrate the solemn feasts and fasts, and appropriate certain hours of ordinary sleep to cultivate a disposition for prayer; and that they do not steal or defraud one another.

The ceremonies contained in the second part of the Shafter are such as these: that they wash often in the rivers, hereby obtaining the pardon of their sins; that they mark their forehead with red, in token of their relation to the Deity; that they present offerings and prayers under certain trees, set apart for this purpose; that they pray in the temples, make oblations to their pagodas, or idols, sing hymns, and make processions, &c. that they make pilgrimages to distant rivers, and especially to the Ganges, there to wash themselves and make offerings; that they make vows to particular saints, according to their respective departments; that they render homage to the Deity at the first sight of the sun; that they pay their respect to the sun and moon, which are the two eyes of the Deity; and that they treat with particular veneration those animals that are deemed more pure than others; as the cow, buffalo, &c.; because the souls of men have transmigrated into these animals.

The third part of the Shafter records the distribution of the people into four classes: the first being that

of the bramins or priests, appointed to instruct the people; the second, that of the kutteris or nobles, who are the magistrates; the third, that of the shudderis or merchants; and the fourth, that of the mechanics. Each person is required to remain in the class in which he was born, and to pursue the occupation assigned to him by the Shafter. According to the bramins, the Shafter was imparted by God himself to Brahma, and by him to the bramins; who communicated the contents of it to the people.

Modern writers have given us very different accounts of the antiquity and importance of the Shafter. Mr Holwell, who had made considerable progress in the translation of this book, apprehends, that the mythology as well as the cosmogony of the Egyptians, Greeks, and Romans, were borrowed from the doctrines of the bramins, contained in it, even to the copying of their exteriors of worship, and the distribution of their idols, though grossly mutilated and adulterated. With respect to the Vedam and Shafter, or scriptures of the Gentoos, this writer informs us, that *Vedam*, in the Malabar language, signifies the same as *Shafter* in the Shan-scrit; and that the first book is followed by the Gentoos of the Malabar and Coromandel coasts, and also of the island of Ceylon. The Shafter is followed by the Gentoos of the provinces of Bengal, and by all the Gentoos of the rest of India, commonly called *India Proper*, along the course of the rivers Ganges and Jumna to the Indus. Both these books (he says) contain the institutes of their respective religion and worship, as well as the history of their ancient rajahs and princes, often couched under allegory and fable. Their antiquity is contended for by the partisans of each; but he thinks, that the similitude of their names, idols, and great part of their worship, leaves little room to doubt, nay plainly evinces, that both these scriptures were originally one. He adds, if we compare the great purity and chaste manners of the Shafter with the great absurdities and impurities of the Vedam, we need not hesitate to pronounce the latter a corruption of the former.

With regard to the high original of these scriptures, the account of the bramins is as follows. Brahma (that is, "Mighty Spirit"), about 4866 years ago, assumed the form of man and the government of Hindostan. He translated the divine law (designed for the restoration of mankind, who had offended in a pre-existent state, and who are now in their last scene of probation, to the dignity from which they were degraded) out of the language of angels into the well known Shan-scrit language, and called his translation the *Chartah Bhade Shastab of Birmah*, or *the Six Scriptures of Divine Words of the Mighty Spirit*. He appointed the bramins, deriving their name from him, to preach the word of God; and the doctrines of the Shafter were accordingly preached in their original purity 1000 years. About this time there was published a paraphrase on the Chartah Bhade; and about 500 years afterwards, a second exposition, called the *Aughtorrah Bhade Shasta*, or *Eighteen Books of Divine Words*, written in a character compounded of the common Hindostan and the Shan-scrit. This innovation produced a schism among the Gentoos; on which occasion, it is said, those of Coromandel and Malabar formed a scripture of their own, which they pretended to be founded on the Chartah Bhade.

Shaster. Bhade of Bramah, and called it the *Vedam of Brimha*, or *Divine Words of the Mighty Spirit*. The original Chartah Bhade was thrown aside, and at length wholly unknown, except to a few families; who can still read and expound it in the Shanferit character. With the establishment of the Aughtorrah Bhade, and Vedam, which, according to the Gentoo account, is 3366 years ago, their polytheism commenced; and the principles of religion became so obscure, and their ceremonies so numerous, that every head of a family was obliged to keep a bramin as a guide both in faith and practice. Mr Hollwell is of opinion, that the Chartah Bhade, or Original Scriptures, are not copied from any other system of theology, promulgated to or obtruded upon mankind. The Gentoos do not attribute them to Zoroaster; and Mr Holwell supposes, that both Zoroaster and Pythagoras visited Indostan, not to instruct, but to be instructed.

From the account of Mr Dow, we learn, that the books which contain the religion and philosophy of the Hindoos are distinguished by the name of *Bedas*; that they are four in number, and, like the sacred writings of other nations, said to be penned by the Divinity. Beda, he says, in the Shanferit language, literally signifies *science*; and these books treat not only of religion and moral duties, but of every branch of philosophic knowledge. The bramins maintain, that the Bedas are the divine laws, which Brimha, at the creation of the world, delivered for the instruction of mankind; but they affirm, that their meaning was perverted in the first age by the ignorance and wickedness of some princes, whom they represent as evil spirits, who then haunted the earth.

The first credible account we have of the Bedas is, that about the commencement of the Cal Jug, of which era the year 1768 was the 4886th year, they were written, or rather collected, by a great philosopher and reputed prophet, called *Beäfs Muni*, or *Beäfs the Inspired*.

The Hindoos, says Mr Dow, are divided into two great religious sects: the followers of the doctrine of Bedang, which is the original Shaster, or commentary upon the Bedas; and those who adhere to the principles of the Neadirsen. The original Shaster is called *Bedang*, and is a commentary upon the Bedas. This book, he says, is erroneously called in Europe the *Vedam*. It is ascribed to Beäfs Muni, and is said to have been revised some years after by one Serrider Swami, since which it has been reckoned sacred, and not subject to any farther alterations.

Almost all the Hindoos of the Decan, and those of the Malabar and Coromandel coasts, are of this sect. The followers of the Bedang Shaster do not allow that any physical evil exists; they maintain that God created all things perfectly good; but that man, being a free agent, may be guilty of moral evil, which may be injurious to himself, but can be of no detriment to the general system of nature. God, they say, being perfectly benevolent, never punished the wicked otherwise than by the pain and affliction which are the natural consequences of evil actions; and hell, therefore, is no other than a consciousness of evil.

The Neadirsen Shaster is said to have been written by a philosopher called *Goutam*, near four thousand years ago. The bramins, from Mr Dow's account of their

sacred books, appear to believe invariably in the unity, eternity, omniscience, and omnipotence of God; and the polytheism of which they have been accused is no more than a symbolical worship of the divine attributes, which they divide into three classes. Under the name of *Brimha*, they worship the wisdom and creative power of God; under the appellation of *Bi/ben*, his providential and preserving quality; and under that of *Shibah*, that attribute which tends to destroy.

As few of our readers may have an opportunity of perusing the Shaster, we shall, by way of specimen, subjoin a passage from it, which, though it contains some metaphysical mysteries concerning the creation, yet discovers views of God so enlightened that they would not disgrace more refined nations. The passage which we shall quote is the first chapter of the Shaster, which is a dialogue between Brimha the Wisdom of the Divinity, and Narud or Reason, who is represented as the son of Brimha. Narud desires to be instructed by his father; and for that purpose puts the following questions to him:

"Narud. O father! thou first of God, thou art said to have created the world, and thy son Narud, astonished at what he beholds, is desirous to be instructed how all these things were made.

"Brimha. Be not deceived, my son! do not imagine that I was the creator of the world, independent of the Divine Mover, who is the great original essence and creator of all things. Look, therefore, only upon me as the instrument of the great *will*, and a part of his being, whom he called forth to execute his eternal designs.

"Narud. What shall we think of God?

"Brimha. Being immaterial, he is above all conception; being invisible, he can have no form; but, from what we behold in his works, we may conclude that he is eternal, omnipotent, knowing all things, and present everywhere.

"Narud. How did God create the world?

"Brimha. Affection dwelt with God from all eternity. It was of three different kinds; the creative, the preserving, and the destructive. This first is represented by Brimha, the second by Bi/ben, and the third by Shibah. You, O Narud! are taught to worship all the three in various shapes and likenesses, as the Creator, the Preserver, and the Destroyer. The affection of God then produced power, and power, at a proper conjunction of time and fate, embraced goodness, and produced matter. The three qualities then acting upon matter, produced the universe in the following manner: From the opposite actions of the creative and destructive quality in matter, self-motion first arose. Self-motion was of three kinds; the first inclining to plasticity, the second to discord, and the third to rest. The discordant actions then produced the Akash (a kind of celestial element), which invisible element possessed the quality of conveying sound; it produced air, a palpable element; fire, a visible element; water, a fluid element; and earth, a solid element.

"The Akash dispersed itself abroad. Air formed the atmosphere; fire, collecting itself, blazed forth in the host of heaven; water rose to the surface of the earth, being forced from beneath by the gravity of the latter element. Thus broke forth the world from the veil of darkness, in which it was formerly comprehend-

Shafter.

ed by God. Order rose over the universe. The seven heavens were formed, and the seven worlds were fixed in their places; there to remain till the great dissolution, when all things shall be absorbed into God.

"God seeing the earth in full bloom, and that vegetation was strong from its seeds, called forth for the first time intellect, which he endued with various organs and shapes, to form a diversity of animals upon the earth. He endued the animals with five senses; feeling, seeing, smelling, tasting, and hearing; but to man he gave reflection, to raise him above the beasts of the field.

"The creatures were created male and female, that they might propagate their species upon the earth. Every herb bore the seed of its kind, that the world might be clothed with verdure, and all animals provided with food.

"Narud. What dost thou mean, O father! by Intellect?

"Brimba. It is a portion of the great soul of the universe breathed into all creatures, to animate them for a certain time.

"Narud. What becomes of it after death?

"Brimba. It animates other bodies, or returns, like a drop, into that unbounded ocean from which it first arose.

"Narud. Shall not then the souls of good men receive rewards? nor the souls of the bad meet with punishment?

"Brimba. The souls of men are distinguished from those of other animals; for the first are endued with reason, and with a consciousness of right and wrong. If therefore man shall adhere to the first, as far as his powers shall extend, his soul, when disengaged from the body by death, shall be absorbed into the divine essence, and shall never more reanimate flesh: But the souls of those who do evil are not, at death, disengaged from all the elements. They are immediately clothed with a body of fire, air, and akash, in which they are for a time punished in hell. After the season of their grief is over, they reanimate other bodies; but till they shall arrive at a state of purity they can never be absorbed into God.

"Narud. What is the nature of that absorbed state which the souls of good men enjoy after death?

"Brimba. It is a participation of the divine nature, where all passions are utterly unknown, and where consciousness is lost in bliss.

"Narud. Thou sayest, O father, that unless the soul is perfectly pure it cannot be absorbed into God; now, as the actions of the generality of men are partly good and partly bad, whither are their spirits sent immediately after death?

"Brimba. They must atone for their crimes in hell, where they must remain for a space proportioned to the degree of their iniquities; then they rise to heaven to be rewarded for a time for their virtues; and from thence they will return to the world to reanimate other bodies.

"Narud. What is time?

"Brimba. Time existed from all eternity with God: but it can only be estimated since motion was produced, and only be conceived by the mind, from its own constant progress.

"Narud. How long shall this world remain?

"Brimba. Until the four lugs shall have revolved.

Then Rudder (the same with *Shibah*, the destroying quality of God), with the ten spirits of dissolution, shall roll a comet under the moon, that shall involve all things in fire, and reduce the world into ashes. God shall then exist alone, for matter will be totally annihilated."

Those who desire more information on this subject may consult *Dow's History of Indostan*, and *Holwell's Interesting Historical Events*.

SHAW (Dr Thomas), known to the learned world by his travels to Barbary and the Levant, was born at Kendal in Westmoreland about the year 1692. He was appointed chaplain to the English consul at Algiers, in which station he continued for several years; and from thence took proper opportunities of travelling into different parts. He returned in 1733; was elected fellow of the Royal Society; and published the account of his travels at Oxford, folio, 1738. In 1740 he was nominated principal of St Edmond-hall, which he raised from a ruinous state by his munificence; and was regius professor of Greek at Oxford until his death, which happened in 1751. Dr Clayton, Bp. of Clogher, having attacked these Travels in his Description of the East, Dr Shaw published a supplement by way of vindication, which is incorporated into the second edition of his Travels, prepared by himself, and published in 4to, 1757.

SHAWLS, are woollen handkerchiefs, an ell wide, and near two long. The wool is so fine and silky, that the whole handkerchief may be contained in the two hands closed. It is the produce of a Tibet sheep; but some say that no wool is employed but that of lambs torn from the belly of their mother before the time of birth. The most beautiful shawls come from Cashmere: their price is from 150 livres (about six guineas) to 1200 livres (or L. 50 Sterling.)

In the Transactions of the Society for Encouraging Arts, Manufactures, &c. for the year 1792, we are informed that a shawl counterpane, four yards square, manufactured by Mr P. J. Knights of Norwich, was presented to the society; and that, upon examination, it appeared to be of greater breadth than any goods of equal fineness and texture that had ever before been presented to the society, or to their knowledge woven in this country. The shawls of Mr Knights's manufacture, it is said, can scarcely be distinguished from Indian shawls, though they can be afforded at one-twentieth part of the price. When the shawl is 16 quarters square, Mr Knights says it may be retailed at L. 20; if it consisted of 12 quarters, and embroidered as the former, it will cost L. 15; if plain, with a fringe only, a shawl of 16 quarters square may be sold at L. 8, 8s.; if 12 quarters and fringed, at L. 6, 6s.

Mr Knights maintains, that his counterpane of four yards square is equal in beauty, and superior in strength, to the Indian counterpanes which are sold at 200 guineas. The principal consumption of this cloth is in train-dresses for ladies; as likewise for long scarfs, in imitation of the real Indian scarfs, which are sold from L. 60 to L. 80; whereas scarfs of this fabric are sold for as many shillings, and the ladies square shawls in proportion.

SHEADING, a riding, tything, or division, in the Isle of Man; the whole island being divided into six sheadings; in every one of which is a coroner or chief constable,

Shaw
||
Sheading.

Shearbill
||
Sheep.

constable, appointed by the delivery of a rod at the annual convention.

SHEARBILL, the *Rhynchops Nigra* of Linnæus, the *Black Skimmer* of Pennant and Latham, and *Cut-water* of Catesby. Its bill is much compressed; the edges are sharp; the lower mandible is four inches and a half long; the upper only three; the base red; the rest is black: the forehead, chin, front of the neck, the breast, and belly, are white: the head and whole upper part of the body are black: the wings are of the same colour: the lower part of the inner webs of the primaries is white: the tail is short, and a little forked; the middle feathers are dusky; the others are white on their sides: the legs are weak and red: the length is one foot eight inches: the extent is three feet seven inches. It inhabits America from New York to Guiana. It skims nimbly along the water, with its under mandible just beneath the surface, feeding on the insects and small fish as it proceeds. It frequents also oyster-banks; its bill being partly like that of the oyster-catcher, adapted for preying on those shell-fish.

SHEATHING, in the sea-language, is the casing that part of a ship which is to be under water with fir-board of an inch thick; first laying hair and tar mixed together under the boards, and then nailing them on, in order to prevent worms from eating the ship's bottom.—Ships of war are now generally sheathed with copper: but copper sheathing is liable to be corroded by the action of salt water, and something is still wanting to effect this purpose. It is very probable that tar might answer very well.

In the Cornish mines, copper or brass pumps are often placed in the deepest parts, and are consequently exposed to the vitriolic or other mineral waters with which some of these mines abound, and which are known to have a much stronger effect on copper than sea-water. These pumps are generally about six feet long, and are screwed together, and made tight by the interposition of a ring of lead, and the joinings are afterwards tarred. One of these pumps was so much corroded as to render it unfit for use; but the spots of tar, which by accident had dropped on it, preserved the parts they covered from the action of the water. These projected in some places more than a quarter of an inch; and the joints were so far defended by the thin coat of tar, that it was as perfect as when it came from the hands of the manufacturer. If tar thus effectually defends copper from these acrimonious waters, can there remain a doubt of its preserving it from the much milder waters of the sea?

SHEATS, in a ship, are ropes bent to the clews of the sails; serving in the lower sails to haul aft the clews of the sail; but in topsails they serve to haul home the clew of the sail close to the yard-arm.

SHEEP, in zoology. See *Ovis* and *Wool*.

Amongst the various animals with which Divine Providence has stored the world for the use of man, none is to be found more innocent, more useful, or more valu-

able, than the sheep. The sheep supplies us with food and clothing, and finds ample employment for our poor at all times and seasons of the year, whereby a variety of manufactures of woollen cloth is carried on without interruption to domestic comfort and loss to friendly society or injury to health, as is the case with many other occupations. Every lock of wool that grows on its back becomes the means of support to staplers, dyers, pickers, scourers, scriblers, carders, comb-ers, spinners, spoolers, warpers, queelers, weavers, fullers, tuckers, burlers, shearmen, pressers, clothiers, and packers, who, one after another, tumble and tofs, and twist, and bake, and boil, this raw material, till they have each extracted a livelihood out of it; and then comes the merchant, who, in his turn, ships it (in its highest state of improvement) to all quarters of the globe, from whence he brings back every kind of riches to his country, in return for this valuable commodity which the sheep affords.

Besides this, the useful animal, after being deprived of his coat, produces another against the next year; and when we are hungry, and kill him for food, he gives us his skin to employ the fell-mongers and parchment-makers, who supply us with a durable material for securing our estates, rights, and possessions; and if our enemies take the field against us, supplies us with a powerful instrument for rousing our courage to repel their attacks. When the parchment-maker has taken as much of the skin as he can use, the glue-maker comes after and picks up every morsel that is left, and there-with supplies a material for the carpenter and cabinet-maker, which they cannot do without, and which is essentially necessary before we can have elegant furniture in our houses; tables, chairs, looking-glasses, and a hundred other articles of convenience: and when the winter nights come on, while we are deprived of the cheering light of the sun, the sheep supplies us with an artificial mode of light, whereby we preserve every pleasure of domestic society, and with whose assistance we can continue our work, or write or read, and improve our minds, or enjoy the social mirth of our tables. Another part of the slaughtered animal supplies us with an ingredient necessary for making good common soap, a useful store for producing cleanliness in every family, rich or poor. Neither need the horns be thrown away; for they are converted by the button-makers and turners into a cheap kind of buttons, tips for bows, and many useful ornaments. From the very trotters an oil is extracted useful for many purposes, and they afford good food when baked in an oven.

Even the bones are useful also; for by a late invention of Dr Higgins, they are found, when reduced to ashes, to be an useful and essential ingredient in the composition of the finest artificial stone in ornamental work for chimney-pieces, cornices of rooms, houses, &c. which renders the composition more durable by effectually preventing its cracking (A).

If it is objected to the meek-inoffensive creature, that he

(A) Any curious person would be much entertained to see the manufactory of bone-ash, now carried on by Mr Minish of White chapel, New Road, wherein the bones of sheep and cows undergo many ingenious processes. 1. There is a mill to break them; 2. A cauldron to extract their oil, marrow, and fat; 3. A reverberatory to heat them red-hot; 4. An oven for those bones to moulder to ashes; 5. A still to collect the fumes of the burnt bones.

Sheep.

he is expensive while living, in eating up our grass, &c. it may be answered that it is quite the contrary; for he can feed where every other animal has been before him and grazed all they could find; and that if he takes a little grass on our downs or in our fields, he amply repays us for every blade of grass in the richness of the manure which he leaves behind him. He protects the hands from the cold wintry blast, by providing them with the softest leather gloves. Every gentleman's library is also indebted to him for the neat binding of his books, for the sheath of his sword, and for cases for his instruments; in short, not to be tedious in mentioning the various uses of leather, there is hardly any furniture or utensil of life but the sheep contributes to render either more useful, convenient, or ornamental.

As the sheep is so valuable an animal, every piece of information concerning the proper method of managing it must be of importance. It will not therefore be useless nor unentertaining to give some account of the manner of managing sheep in Spain, a country famous for producing the best wool in the world.

2
Account of
the Spanish
sheep

In Spain there are two kinds of sheep: the coarse-wooled sheep, which always remain in their native country, and are housed every night in winter; and the fine-wooled sheep, which are always in the open air, and travel every summer from the cool mountains of the northern parts of Spain, to feed in winter on the southern warm plains of Andalusia, Mancha, and Estremadura. Of these latter, it appears from accurate computations, that there are about five millions (B); and that the wool and flesh of a flock of 10,000 sheep produce yearly about 24 reals a-head, or about the value of 12 English sixpences, one of which belongs to the owner, three to the king, and the other eight are allowed for the expences of pasture, tythes, shepherds, dogs, salt, shearing, &c. Ten thousand sheep form a flock, which is divided into ten tribes, under the management of one person, who has absolute dominion over fifty shepherds and fifty dogs.

3
Of Segovia,

Bourgo-
anne's Tra-
vels, vol. i.
p. 53.

M. Bourgoanne, a French gentleman, who resided many years in Spain, and directed his inquiries chiefly to the civil government, trade, and manufactures, of that country, gives the following account of the wandering sheep of Segovia. "It is (says he) in the neighbouring mountains that a part of the wandering sheep feed during the fine season. They leave them in the month of October, pass over those which separate the two Castiles, cross New Castile, and disperse themselves in the plains of Estremadura and Andalusia. For some years past those of the two Castiles, which are within reach of the Sierra-Morena, go thither to pass the win-

ter; which, in that part of Spain, is more mild: the length of their day's journey is in proportion to the pasture they meet with. They travel in flocks from 1000 to 1200 in number, under the conduct of two shepherds; one of whom is called the *Mayoral*, the other the *Zagal*. When arrived at the place of their destination, they are distributed in the pastures previously assigned them. They return in the month of April; and whether it be habit or natural instinct that draws them towards the climate, which at this season becomes most proper for them, the inquietude which they manifest might, in case of need, serve as an almanac to their conductors."

Mr Arthur Young, in that patriotic work which he conducted with great industry and judgment, the *Annals of Agriculture*, gives us a very accurate and interesting account of the Pyrenean or Catalonian sheep.

4
"On the northern ridge, bearing to the west, are the pastures of the Spanish flocks. This ridge is not, however, the whole; there are two other mountains, quite in a different situation, and the sheep travel from one to another as the pasturage is short or plentiful. I examined the soil of these mountain pastures, and found it in general stony; what in the west of England would be called a *stone brash*, with some mixture of loam, and in a few places a little peaty. The plants are many of them untouched by the sheep; many ferns, narcissus, violets, &c. but burnet (*poterium sanguisorba*) and the narrow-leaved plantain (*plantago lanceolata*) were eaten, as may be supposed, close. I looked for trefoils, but found scarcely any: it was very apparent that soil and peculiarity of herbage had little to do in rendering these heights proper for sheep. In the northern parts of Europe, the tops of mountains half the height of these (for we were above snow in July) are bogs, all are so which I have seen in our islands, or at least the proportion of dry land is very trifling to that which is extremely wet: Here they are in general very dry. Now a great range of dry land, let the plants be what they may, will in every country suit sheep. The flock is brought every night to one spot, which is situated at the end of the valley on the river I have mentioned, and near the port or passage of Picada: it is a level spot sheltered from all winds. The soil is 8 or 9 inches deep of old dung, not at all inclosed: from the freedom from wood all around, it seems to be chosen partly for safety against wolves and bears. Near it is a very large stone, or rather rock, fallen from the mountain. This the shepherds have taken for a shelter, and have built a hut against it; their beds are sheep skins, and their door so small that they crawl in. I saw no place for fire; but they have it, since they dress here the flesh of their sheep, and

bones into a brown fluid, from whence hartshorn is made; 6 Furnaces for making parts thereof into Glauber's salts; 7. A sand heat containing twelve jars, for collecting a crystallizing vapour into sal-ammoniac.

(B) In the 16th century the travelling sheep were estimated at seven millions: under Philip III. the number was diminished to two millions and a half. Ustariz, who wrote at the beginning of this century, made it amount to four millions. The general opinion is, that at present it does not exceed five millions. If to this number the eight millions of stationary sheep be added, it will make nearly thirteen millions of animals, all managed contrary to the true interests of Spain, for the advantage of a few individuals. For the proprietors of stationary flocks also have privileges which greatly resemble those of the members of the *Mesta*. According to Arriquebar, Spain contains eight millions of fine-wooled sheep, ten millions of coarse-wooled, and five hundred thousand bulls, oxen, and cows.

Sheep. and in the night sometimes keep off the bears, by whirling fire-brands: four of them belonging to the flock mentioned above lie here. I viewed their flock very carefully, and by means of our guide and interpreter, made some inquiries of the shepherds, which they answered readily, and very civilly. A Spaniard at Venasque, a city in the Pyrenees, gives 600 livres French (the livre is 10½d. English) a-year for the pasturage of this flock of 2000 sheep. In the winter he sends them into the lower parts of Catalonia, a journey of 12 or 13 days, and when the snow is melted in the spring, they are conducted back again. They are the whole year kept in motion, and moving from spot to spot, which is owing to the great range they everywhere have of pasture. They are always in the open air, never housed or under cover, and never taste of any food but what they can find on the hills.

“Four shepherds, and from four to six large Spanish dogs, have the care of this flock: the latter are in France called of the *Pyrenees breed*; they are black and white, of the size of a large wolf, a large head and neck, armed with collars stuck with iron spikes. No wolf can stand against them; but bears are more potent adversaries: if a bear can reach a tree, he is safe; he rises on his hind legs, with his back to the tree, and sets the dogs at defiance. In the night the shepherds rely entirely on their dogs; but on hearing them bark are ready with fire-arms, as the dogs rarely bark if a bear is not at hand. I was surprised to find that they are fed only with bread and milk. The head shepherd is paid 120 livres a-year wages and bread; the others 80 livres and bread. But they are allowed to keep goats, of which they have many which they milk every day. Their food is milk and bread, except the flesh of such sheep or lambs as accidents give them. The head shepherd keeps on the mountain top, or an elevated spot, from whence he can the better see around while the flock traverses the declivities. In doing this the sheep are exposed to great danger in places that are stony; for by walking among the rocks, and especially the goats, they move the stones, which, rolling down the hills, acquire an accelerated force enough to knock a man down, and sheep are often killed by them; yet we saw how alert they were to avoid such stones, and cautiously on their guard against them. I examined the sheep attentively. They are in general polled, but some have horns; which in the rams turn backwards behind the ears and project half a circle forward; the ewes horns turn also behind the ears, but do not project: the legs white or reddish; speckled faces, some white, some reddish; they would weigh fat, I reckon, on an average, from 15 lb. to 18 lb. a quarter. Some tails short, some left long. A few black sheep among them: some with a very little tuft of wool on their foreheads. On the whole they resemble those on the South Downs; their legs are as short as those of that breed; a point which merits observation, as they travel so much and so well. Their shape is very good; round ribs and flat straight backs; and would with us be reckoned handsome sheep; all in good order and flesh. In order to be still better acquainted with them, I desired one of the shepherds to catch a ram for me to feel, and examine the wool, which I found very thick and good of the carding sort, as may be supposed. I took a specimen of it,

and also of a hoggit, or lamb of last year. In regard to the mellow softness under the skin, which, in Mr Bakewell's opinion, is a strong indication of a good breed, with a disposition to fatten, he had it in a much superior degree to many of our English breeds, to the full as much so as the South Downs, which are for that point the best short-woolled sheep which I know in England. The fleece was on his back, and weighed, as I guessed, about 8 lb. English; but the average, they say, of the flock is from four to five, as I calculated by reducing the Catalonian pound of 12 oz. to ours of 16, and is all sold to the French at 30s. the lb. French. This ram had the wool of the back part of his neck tied close, and the upper tuft tied a second knot by way of ornament; nor do they ever shear this part of the fleece for that reason: we saw several in the flock with this species of decoration. They said that this ram would sell in Catalonia for 20 livres. A circumstance which cannot be too much commended, and deserves universal imitation, is the extreme docility they accustom them to. When I desired the shepherd to catch one of his rams, I supposed he would do it with his crook, or probably not be able to do it at all; but he walked into the flock, and singling out a ram and a goat, bid them follow him, which they did immediately; and he talked to them while they were obeying him, holding out his hand as if to give them something. By this method he brought me the ram, which I caught, and held without difficulty.”

The best sort of sheep for fine wool are those bred in Herefordshire, Devonshire, and Worcestershire; but they are small, and black-faced, and bear but a small quantity. Warwick, Leicestershire, Buckingham, and Northamptonshire, breed a large-boned sheep, of the best shape and deepest wool we have. The marshes of Lincolnshire breed a very large kind of sheep, but their wool is not good, unless the breed be mended by bringing in sheep of other counties among them, which is a scheme of late very profitably followed there. In this county, it is no uncommon thing to give fifty guineas for a ram, and a guinea for the admission of an ewe to one of these valuable males, or twenty guineas for the use of it for a certain number of ewes during one season. Suffolk also breeds a very valuable kind of sheep. The northern counties in general breed sheep with long but hairy wool: however, the wool which is taken from the neck and shoulders of the Yorkshire sheep is used for mixing with Spanish wool in some of their finest cloths.

Wales bears a small hardy kind of sheep, which has the best tasted flesh, but the worst wool of all. Nevertheless it is of more extensive use than the finest Segovian fleeces; for the benefit of the flannel manufacture is universally known. The sheep of Ireland vary like those of Great Britain: those of the south and east being large and their flesh rank: those of the north and the mountainous parts small and their flesh sweet. The fleeces in the same manner differ in degrees of value. Scotland breeds a small kind, and their fleeces are coarse.

But the new Leicestershire breed is the most fashionable, and of course the most profitable breed in the island. Joseph Altom of Clifton, who raised himself from a plough-boy, was the first who distinguished him-

Sheep.

What sheep
produce the
best wool.

Sheep.

self in the midland counties of England for a superior breed of sheep. How he improved his breed is not known; but it was customary for eminent farmers in his time to go to Clifton in summer to choose and purchase ram-lambs, for which they paid two or three guineas. This man was succeeded by Mr Bakewell; and it may reasonably be supposed that the breed, by means of Alton's stock, had passed the first stage of improvement before Mr Bakewell's time. Still, however, it must be acknowledged, that the Leicestershire breed of sheep owes its present high state of improvement to the ability and care of Mr Bakewell.

6
Account of
Mr Bakewell's
breed.
Marshall's
Midland
Counties,
vol. i.
p. 381.

7
How it is
supposed he
improved
it.

"The manner in which Mr Bakewell raised his sheep to the degree of celebrity in which they deservedly stand, is, notwithstanding the recentness of the improvement, and its being done in the day of thousands now living, a thing in dispute; even among men high in the profession, and living in the very district in which the improvement has been carried on!

"Some are of opinion that he effected it by a cross with the Wiltshire breed; an improbable idea, as their form altogether contradicts it: others, that the Ryeland breed were used for this purpose; and with some show of probability. If any cross whatever was used, the Ryeland breed, whether we view the form, the size, the wool, the flesh, or the fattening quality, is the most probable instrument of improvement.

"These ideas, however, are registered merely as matters of opinion. It is more than probable that Mr Bakewell alone is in possession of the several minutiae of improvement; and the public can only hope that at a proper time the facts may be communicated for the direction of future improvers.

"Whenever this shall take place, it will most probably come out that no cross with any alien breed whatever has been used; but that the improvement has been effected by selecting individuals from kindred breeds; from the several breeds or varieties of long-woolled sheep, with which Mr Bakewell was surrounded on almost every side, and by breeding, *inandin* (c), with this selection: solicitously seizing the superior accidental varieties produced; associating these varieties; and still continuing to select, with judgment, the superior individuals.

8
Description
of his ewes
and wethers.

"It now remains to give a description of the superior class of individuals of this breed, especially ewes and wethers, in full condition, but not immoderately fat. The rams will require to be distinguished afterwards.

"The head is long, small, and hornless, with ears somewhat long, and standing backward, and with the nose shooting forward. The neck thin, and clean toward the head; but taking a conical form; standing low, and enlarging every way at the base; the fore-end altogether short. The bosom broad, with the shoulders, ribs, and chine extraordinary full. The loin broad, and the back level. The haunches comparatively full toward the hips, but light downward; being altogether small in proportion to the fore-parts. The legs, at present, of a moderate length; with the bone extremely fine. The bone throughout remarkably light. The

carcase, when fully fat, takes a remarkable form; much wider than it is deep, and almost as broad as it is long. Full on the shoulder, widest on the ribs, narrowing with a regular curve towards the tail; approaching the form of the turtle nearer perhaps than any other animal. The pelt is thin, and the tail small. The wool is shorter than long wools in general, but much longer than the middle wools; the ordinary length of staple five to seven inches, varying much in fineness and weight."

This breed surpasses every other in beauty of form; they are full and weighty in the fore quarters; and are remarkable for smallness of bone. Mr Marshall, who has been of so much benefit to agriculture and his country by his publications, informs us, in his Rural Economy of the Midland Counties, that he has seen a rib of a sheep of this breed contrasted with one of a Norfolk sheep: the disparity was striking; the latter nearly twice the size; while the meat which covered the former was three times the thickness: consequently the proportion of meat to bone was in the one incomparably greater than in the other. Therefore, in this point of view, the improved breed has a decided preference: for surely while mankind continue to eat flesh and throw away bone, the former must be, to the consumer at least, the more valuable.

The criterions of good and bad flesh while the animal is alive differ in different species, and are not properly settled in the same species. One superior breeder is of opinion, that if the flesh is not loose, it is of course good; holding, that the flesh of sheep is never found in a state of hardness, like that of ill-fleshed cattle: while others make a fourfold distinction of the flesh of sheep; as looseness, mellowness, firmness, hardness: considering the first and the last equally exceptionable, and the second and third equally desirable; a happy mixture of the two being deemed the point of perfection.

The flesh of sheep, when slaughtered, is well known to be of various qualities. Some is composed of large coarse grains, interspersed with wide empty pores like a sponge: others, of large grains, with wide pores filled with fat; others, of fine close grains, with smaller pores filled with fat: and a fourth, of close grains, without any intermixture of fatness.

The flesh of sheep, when dressed, is equally well known to possess a variety of qualities: some mutton is coarse, dry, and insipid; a dry sponge, affording little or no gravy of any colour. Another sort is somewhat firmer, imparting a light-coloured gravy only. A third plump, short, and palatable; affording a mixture of white and red gravy. A fourth likewise plump and well-flavoured, but discharging red gravy, and this in various quantities.

It is likewise observable, that some mutton, when dressed, appears covered with a thick, tough, parchment-like integument; others with a membrane comparatively fine and flexible. But these, and some of the other qualities of mutton, may not be wholly owing to breed, but in part to the age and the state of fatness at the time of slaughter. Examined in this light, whether

Sheep.

9

Fatten remarkably well.

(c) *Inandin* is a term used in the midland counties of England to express breeding from the same family.

Sheep. ther we consider the degree of fatness, or their natural propensity to a state of fatness, even at an early age, the improved breed of Leicestershire sheep appear with many superior advantages.

Midland
Counties,
vol. i.
p. 398.

The degree of fatness to which the individuals of this breed are capable of being raised, will perhaps appear incredible to those who have not had an opportunity of being convinced by their own observation. "I have seen wedders (says Mr Marshall) of only two shear (two to three years old) so loaded with fat as to be scarcely able to make a run; and whose fat lay so much without the bone, it seemed ready to be shaken from the ribs on the smallest agitation.

"It is common for the sheep of this breed to have such a projection of fat upon the ribs, immediately behind the shoulder, that it may be easily gathered up in the hand, as the flank of a fat bullock. Hence it has gained, in technical language, the name of the *fore-flank*; a point which a modern breeder never fails to touch in judging of the quality of this breed of sheep.

"What is, perhaps, still more extraordinary, it is not rare for the rams, at least of this breed, to be 'cracked on the back;' that is, to be cloven along the top of the chine, in the manner fat sheep generally are upon the rump. This mark is considered as an evidence of the best blood.

"Extraordinary, however, as are these appearances while the animals are living, the facts are still more striking after they are slaughtered. At Litchfield, in February 1785, I saw a fore quarter of mutton, fatted by Mr Princep of Croxall, and which measured upon the ribs four inches of fat. It must be acknowledged, however, that the Leicestershire breed do not produce so much wool as most other long-woolled sheep."

As the practice of letting rams by the season is now become profitable, it may be useful to mention the method of rearing them.

10
How the
rams are
reared.

"The principal ram-breeders save annually twenty, thirty, or perhaps forty ram lambs; castration being seldom applied, in the first instance, to the produce of a valuable ram. for in the choice of these lambs they are led more by blood, or parentage, than by form; on which, at an early age, little dependence can be placed. Their treatment from the time they are weaned, in July or August, until the time of shearing, the first week in June, consists in giving them every indulgence of keep, in order to push them forward for the show; it being the common practice to let such as are fit to be let the first season, while they are yet yearlings—provincially 'sharhogs.'

"Their first pasture, after weaning, is pretty generally, I believe, clover that has been mown early, and has got a second time into head; the heads of clover being considered as a most forcing food of sheep. After this goes off, turnips, cabbages, colewort, with hay, and (report says) with corn. But the use of this the breeders severally deny, though collectively they may be liable to the charge.

"Be this as it may, something considerable depends on the *art of making up*, not lambs only, but rams of all ages. Fat, like charity, covers a multitude of faults; and besides, is the best evidence of their fatting quality which their owners can produce (*i.e.* their natural propensity to a state of fatness), while in the fatness of the

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sharhogs is seen their degree of inclination to fat at an early age.

Sheep.

"Fatting quality being the one thing needful in grazing stock, and being found, in some considerable degree at least, to be hereditary, the fattest rams are of course the best; though other attachments, well or ill placed, as to form or fashionable points, will perhaps have equal or greater weight in the minds of some men, even in this enlightened age. Such shearlings as will not make up sufficiently as to form and fatness, are either kept on to another year to give them a fair chance, or are castrated, or butchered while sharhogs."

From the first letting, about 40 years ago, to the year 1780, the prices kept gradually rising from fifteen shillings to a guinea, and from one to ten. In 1780 Mr Bakewell let several at ten guineas each; and, what is rather inexplicable, Mr Parkinson of Quarndon let one the same year for twenty-five guineas; a price which then astonished the whole country.

11
What sums
Mr Bake-
well re-
ceived for
letting
them.

From that time to 1786 Mr Bakewell's stock rose rapidly from ten to a hundred guineas; and that year he let two thirds of one ram (reserving one third of the usual number of ewes to himself) to two principal breeders, for a hundred guineas each, the entire services of the ram being rated at three hundred guineas! Mr Bakewell making that year, by letting twenty rams only, more than a thousand pounds!

Since that time the prices have been still rising. Four hundred guineas have been repeatedly given. Mr Bakewell, this year (1789) makes, says Mr Marshall, twelve hundred guineas by three rams (brothers, we believe); two thousand of seven; and of his whole letting, full three thousand guineas!

Beside this extraordinary sum made by Mr Bakewell, there are six or seven other breeders who make from five hundred to a thousand guineas each. The whole amount of monies produced that year in the Midland Counties, by letting rams of the modern breed for one season only, is estimated, by those who are adequate to the subject, at the almost incredible sum of ten thousand pounds.

Rams previous to the season are reduced from the cumbrous fat state in which they are shown. The usual time of sending them out is the middle of September. They are conveyed in carriages of two wheels with springs, or hung in slings, 20 or 30 miles a-day, some times to the distance of 200 or 300 miles. They are not turned loose among the ewes, but kept apart in a small inclosure, where a couple of ewes only are admitted at once. When the season is over every care is taken to make the rams look as fat and handsome as possible.

12
The treat-
ment of
the rams
and choice
of the
ewes.

In the choice of ewes the breeder is led by the same criterions as in the choice of rams. Breed is the first object of consideration. Excellency, in any species or variety of live-stock, cannot be attained with any degree of certainty, let the male be ever so excellent, unless the females employed likewise inherit a large proportion of the genuine blood, be the species or variety what it may. Hence no prudent man ventures to give the higher prices for the Dishley rams, unless his ewes are deeply tinged with the Dishley blood. Next to breed is flesh, fat, form, and wool.

After the lambs are weaned, the ewes are kept in common feeding places, without any alteration of pasture,

X x

Sheep.

ture, previous to their taking the ram. In winter they are kept on grass, hay, turnips, and cabbages. As the heads of the modern breed are much finer than most others, the ewes lamb with less difficulty.

The female lambs, on being weaned, are put to good keep, but have not such high indulgence shown them as the males, the prevailing practice being to keep them from the ram the first autumn.

At weaning time, or previously to the admission of the ram, the ewes are culled, to make room for the thaves or shearlings, whose superior blood and fashion intitle them to a place in the breeding flock. In the work of culling, the ram-breeder and the mere grazier go by somewhat different guides. The grazier's guide is principally age, seldom giving his ewes the ram after they are four shear. The ram-breeder, on the contrary, goes chiefly by merit; an ewe that has brought him a good ram or two is continued in the flock so long as she will breed. There are instances of ewes having been prolific to the tenth or twelfth year; but in general the ewes of this breed go off at six or seven shear.

In the practice of some of the principal ram-breeders, the culling ewes are never suffered to go out of their hands until after they are slaughtered, the breeders not only fattening them, but having them butchered, on their premises. There are others, however, who sell them; and sometimes at extraordinary prices. Three, four, and even so high as ten, guineas each have been given for these outcasts.

There are in the flocks of several breeders ewes that would fetch at auction twenty guineas each. Mr Bakewell is in possession of ewes which, if they were now put up to be sold to the best bidder, would, it is estimated, fetch no less than fifty each, and perhaps, through the present spirit of contention, much higher prices.

13
Instructions
for purcha-
sing sheep.

The following instructions for purchasing sheep, we hope, will be acceptable to our country readers.—The farmer should always buy his sheep from a worse land than his own, and they should be big-boned, and have a long greasy wool, curling close and well. These sheep always breed the finest wool, and are also the most approved of by the butcher for sale in the market. For the choice of sheep to breed, the ram must be young, and his skin of the same colour with his wool, for the lambs will be of the same colour with his skin. He should have a large long body; a broad forehead, round, and well rising; large eyes; and straight and short nostrils. The polled sheep, that is, those which have no horns, are found to be the best breeders. The ewe should have a broad back; a large bending neck; small, but short, clean, and nimble legs; and a thick, deep wool covering her all over.

To know whether they be sound or not, the farmer should examine the wool that none of it be wanting, and see that the gums be red, the teeth white and even, and the brisket-skin red, the wool firm, the breath sweet, and the feet not hot. Two years old is the best time for beginning to breed; and their first lambs should not be kept too long, to weaken them by suckling, but be sold as soon as conveniently may be. They will breed advantageously till they are seven years old. The farmers have a method of knowing the age of a sheep, as a horse's is known, by the mouth. When a sheep

is one shear, as they express it, it has two broad teeth before; when it is two shear, it will have four; when three, six; and when four, eight. After this their mouths begin to break.

The difference of land makes a very great difference in the sheep. The fat pastures breed straight tall sheep, and the barren hills and downs breed square short ones; woods and mountains breed tall and slender sheep; but the best of all are those bred upon new-ploughed land and dry grounds. On the contrary, all wet and moist lands are bad for sheep, especially such as are subject to be overflowed, and to have sand and dirt left on them. The salt marshes are, however, an exception to this general rule, for their saltness makes amends for their moisture; salt, by reason of its drying quality, being of great advantage to sheep.

As to the time of putting the rams to the ewes, the farmer must consider at what time of the spring his grass will be fit to maintain them and their lambs, and whether he has turnips to do it till the grass comes; for very often both the ewes and lambs are destroyed by the want of food; or if this does not happen, if the lambs are only stunted in their growth by it, it is an accident that they never recover. The ewe goes 20 weeks with lamb, and according to this it is easy to calculate the proper time. The best time for them to yearn is in April, unless the owner has very forward grass or turnips, or the sheep are field sheep. Where you have not inclosures to keep them in, then it may be proper they should yearn in January, that the lambs may be strong by May-day, and be able to follow the dam over the fallows and water-furrows; but then the lambs that come so early must have a great deal of care taken of them, and so indeed should all other lambs at their first falling, else while they are weak the crows and magpies will pick their eyes out.

When the sheep are turned into fields of wheat or rye to feed, it must not be too rank at first, for if it be, it generally throws them into scourings. Ewes that are big should be kept but bare, for it is very dangerous to them to be fat at the time of their bringing forth their young. They may be well fed, indeed, like cows, a fortnight beforehand, to put them in heart. Mortimer's Husbandry, p. 243.

The feeding sheep with turnips is one great advantage to the farmers. When they are made to eat turnips they soon fatten, but there is some difficulty in bringing this about. The old ones always refuse them at first, and will sometimes fast three or four days, till almost famished; but the young lambs fall to at once. The common way, in some places, of turning a flock of sheep at large into a field of turnips, is very disadvantageous, for they will thus destroy as many in a fortnight as would keep them a whole winter. There are three other ways of feeding them on this food, all of which have their several advantages.

The first way is to divide the land by hurdles, and allow the sheep to come upon such a portion only at a time as they can eat in one day, and so advance the hurdles farther into the ground daily till all be eaten. This is infinitely better than the former random method; but they never eat them clean even this way, but leave the bottoms and outsides scooped in the ground: the people pull up these indeed with iron crooks, and lay them before the sheep again, but they are commonly

Sheep.

14
When rams
ought to
be admit-
ted to the
ewes.

15
The first
way of
feeding
sheep with
turnips.

Sheep. ly so fouled with the creature's dung and urine, and with the dirt from their feet, that they do not care for them; they eat but little of them, and what they do eat does not nourish them like the fresh roots.

16
The second.

The second way is by inclosing the sheep in hurdles, as in the former; but in this they pull up all the turnips which they suppose the sheep can eat in one day, and daily remove the hurdles over the ground whence they have pulled up the turnips: by this means there is no waste, and less expence, for a person may in two hours pull up all those turnips; the remaining shells of which would have employed three or four labourers a-day to get up with their crooks out of the ground trodden hard by the feet of the sheep; and the worst is, that as in the method of pulling up first, the turnips are eaten up clean; in this way, by the hook, they are wasted, the sheep do not eat any great part of them, and when the ground comes to be tilled afterwards for a crop of corn, the fragments of the turnips are seen in such quantities on the surface, that half the crop at least seems to have been wasted.

17
The third, which is the best.

The third manner is to pull up the turnips, and remove them in a cart or waggon to some other place, spreading them on a fresh place every day; by this method the sheep will eat them up clean, both root and leaves. The great advantage of this method is, when there is a piece of land not far off which wants dung more than that where the turnips grew, which perhaps is also too wet for the sheep in winter, and then the turnips will, by the too great moisture and dirt of the soil, sometimes spoil the sheep, and give them the rot. Yet such ground will often bring forth more and larger turnips than dry land, and when they are carried off, and eaten by the sheep on ploughed land, in dry weather, and on green sward in wet weather, the sheep will succeed much better; and the moist soil where the turnips grew not being trodden by the sheep, will be much fitter for a crop of corn than if they had been fed with turnips on it. The expence of hurdles, and the trouble of moving them, are saved in this case, which will counterbalance at least the expence of pulling the turnips and carrying them to the places where they are to be eaten. They must always be carried off for oxen.

18
Diseases of sheep.

The diseases to which sheep are subject are these, rot, red-water, foot-rot and hoving, scab, dunt, rickets, fly-struck, flux, and burking. Of each of these we shall give the best description in our power, with the most approved remedies.

19
The rot.

The rot, which is a very pernicious disease, has of late engaged the attention of scientific farmers. But neither its nature nor its cause has yet been fully ascertained. Some valuable and judicious observations have, however, been made upon it, which ought to be circulated, as they may perhaps, in many cases, furnish an antidote for this malignant distemper, or be the means of leading others to some more efficacious remedy. Some have supposed the rot owing to the quick growth of grass or herbs that grow in wet places. Without premising, that all-bounteous Providence has given to every animal its peculiar taste, by which it distinguishes the food proper for its preservation and support, if not vitiated by fortuitous circumstances, it seems very difficult to discover on philosophical principles why the quick growth of grass should render it noxious, or why any herb should at one season pro-

duce fatal effects, by the admission of pure water only into its component parts, which at other times is perfectly innocent, although brought to its utmost strength and maturity by the genial influence of the sun. Besides, the constant practice of most farmers in the kingdom, who with the greatest security feed their meadows in the spring, when the grass shoots quick and is full of juices, militates directly against this opinion.

Mr Arthur Young, to whom agriculture is much indebted, ascribes this disease to moisture. In confirmation of this opinion, which has been generally adopted, we are informed, in the Bath Society papers*, by a correspondent, that there was a paddock adjoining to his park which had for several years caused the rot in most of the sheep which were put into it. In 1769 he drained it, and from that time his sheep were free from this malady. But there are facts which render it doubtful that moisture is the sole cause. We are told, the dry limed land in Derbyshire will produce the rot as well as water meadows and stagnant marshes; and that in some wet grounds sheep sustain no injury for many weeks.

* Vol. I.
art. xlv.

Without attempting to enumerate other hypotheses its cause, which the ingenious have formed on this subject, we shall pursue a different method in order to discover the cause. On dissecting sheep that die of this disorder, a great number of insects called *flukes* (see *FASCIOLA*) are found in the liver. That these flukes are the cause of the rot, therefore, is evident; but to explain how they come into the liver is not so easy. It is probable that they are swallowed by the sheep along with their food while in the egg state. The eggs deposited in the tender germ are conveyed with the food into the stomach and intestines of the animals, whence they are received into the lacteal vessels, carried off in the chyle, and pass into the blood; nor do they meet with any obstruction until they arrive at the capillary vessels of the liver. Here, as the blood filtrates through the extreme branches, answering to those of the *vena porta* in the human body, the discerning vessels are too minute to admit the impregnated ova, which, adhering to the membrane, produce those animalculæ that feed upon the liver and destroy the sheep. They much resemble the flat fish called plaice, are sometimes as large as a silver two-pence, and are found both in the liver and in the pipe (answering to that of the *vena cava*) which conveys the blood from the liver to the heart.

The common and most obvious objection to that opinion is, that this insect is never found but in the liver, or in some parts of the viscera, of sheep that are diseased more or less; and that they must therefore be bred there. But this objection will lose its force, when we consider that many insects undergo several changes, and exist under forms extremely different from each other. Some of them may therefore appear and be well known under one shape, and not known to be the same under a second or third. The fluke may be the last state of some aquatic animal which we at present very well know under one or other of its previous forms.

If this be admitted, it is easy to conceive that sheep may, on wet ground especially, take multitudes of these ova or eggs in with their food; and that the stomach and viscera of the sheep being a proper nidus for them, they of course hatch, and appearing in their fluke

²¹ **Sheep.** or last state, feed on the liver of the animal, and occasion this disorder.

It is a singular fact, "that no ewe ever has the rot while she has a lamb by her side." The reason of this may be, that the impregnated ovum passes into the milk, and never arrives at the liver. The rot is fatal to sheep, hares, and rabbits, and sometimes to calves; but never infects animals of a larger size.

²² **And most approved cure.**

Miller says that parsley is a good remedy for the rot in sheep. Perhaps a strong decoction of this plant, or the oil extracted from its seeds, might be of service. Salt is also a useful remedy. It seems to be an acknowledged fact that salt marshes never produce the rot. Salt indeed is pernicious to most insects. Common salt and water expel worms from the human body; and sea-weed, if laid in a garden, will drive away insects; but if the salt is separated by steeping it in the purest spring-water for a few days, it abounds with animalculæ of various species.

Lisle, in his book of husbandry, informs us of a farmer who cured his whole flock of the rot by giving each sheep a handful of Spanish salt for five or six mornings successively. The hint was probably taken from the Spaniards, who frequently give their sheep salt to keep them healthy. On some farms perhaps the utmost caution cannot always prevent this disorder. In wet and warm seasons the prudent farmer will remove his sheep from the lands liable to rot. Those who have it not in their power to do this may give each sheep a spoonful of common salt, with the same quantity of flour, in a quarter of a pint of water, once or twice a-week. When the rot is recently taken, the same remedy given four or five mornings successively will in all probability effect a cure. The addition of the flour and water (in the opinion of Mr Price of Salisbury, to whose excellent paper in the Bath Society's Transactions we owe ourselves much indebted) will not only abate the pungency of the salt, but dispose it to mix with the chyle in a more gentle and efficacious manner.

A farmer of a considerable lordship in Bohemia visiting the hot-wells of Carlsbad, related how he preserved his flocks of sheep from the mortal distemper which raged in the wet year 1769, of which so many perished. His preservative was very simple and very cheap: "He fed them every night, when turned under a shed, cover, or stables, with hashed fodder straw; and, by eating it greedily, they all escaped."

²³ **Red-water.**

"Red-water is a disorder most prevalent on wet grounds. I have heard (says Mr Arthur Young) that it has sometimes been cured by tapping, as for a dropsy. This operation is done on one side of the belly towards the flank, just below the wool.

²⁴ **Foot-rot.**

"The foot-rot and hoving, which is very common on low fenny grounds, is cured by keeping the part clean, and lying at rest in a dry pasture."

²⁵ **Scab.**

The scab is a cutaneous disease owing to an impurity of the blood, and is most prevalent in wet lands or in rainy seasons. It is cured by tobacco-water, brim-

stone, and alum, boiled together, and then rubbed over the sheep. If only partial, tar and grease may be sufficient. But the simplest and most efficacious remedy for this disease was communicated to the Society for the Encouragement of Arts, &c. by Sir Joseph Banks.

"Take one pound of quicksilver, half a pound of Venice turpentine, half a pint of oil of turpentine, and four pounds of hogs lard (c). Let them be rubbed in a mortar till the quicksilver is thoroughly incorporated with the other ingredients; for the proper mode of doing which, it may be proper to take the advice, or even the assistance, of some apothecary or other person used to make such mixtures. ²⁵ **Remedy recommended by Sir Joseph Banks.**

"The method of using the ointment is this: Beginning at the head of the sheep, and proceeding from between the ears along the back to the end of the tail, the wool is to be divided in a furrow till the skin can be touched; and as the furrow is made, the finger slightly dipped in the ointment is to be drawn along the bottom of it, where it will leave a blue stain on the skin and adjoining wool: from this furrow similar ones must be drawn down the shoulders and thighs to the legs, as far as they are woolly; and if the animal is much infected, two more should be drawn along each side parallel to that on the back, and one down each side between the fore and hind legs.

"Immediately after being dressed, it is usual to turn the sheep among other stock, without any fear of the infection being communicated; and there is scarcely an instance of a sheep suffering any injury from the application. In a few days the blotches dry up, the itching ceases, and the animal is completely cured: it is generally, however, thought proper not to delay the operation beyond Michaelmas.

"The *hippobosca ovina*, called in Lincolnshire *sheep fagg*, an animal well known to all shepherds, which lives among the wool, and is hurtful to the thriving of sheep both by the pain its bite occasions and the blood it sucks, is destroyed by this application, and the wool is not at all injured. Our wool-buyers purchase the fleeces on which the stain of the ointment is visible, rather in preference to others, from an opinion that the use of it having preserved the animal from being vexed either with the scab or faggs, the wool is less liable to the defects of joints or knots; a fault observed to proceed from every sudden stop in the thriving of the animal, either from want of food or from disease.

"This mode of curing was brought into that part of Lincolnshire where my property is situated about 12 years ago, by Mr Stephenson of Mareham, and is now so generally received, that the scab, which used to be the terror of the farmers, and which frequently deterred the more careful of them from taking the advantage of pasturing their sheep in the fertile and extensive commons with which that district abounds, is no longer regarded with any apprehension: by far the most of them have their flock anointed in autumn, when they return from the common, whether they show any symptoms of scab or not; and having done so, conclude them

(c) By some unaccountable mistake the last ingredient, the four pounds of hogs lard, is omitted in the receipt published in the Transactions of the Society; a circumstance that might be productive of bad effects.—The leaf which contained the receipt has since been cancelled, and a new one printed.

Sheep. them safe for some time from either giving or receiving infection. There are people who employ themselves in the business, and contract to anoint our large sheep at five shillings a score, insuring for that price the success of the operation; that is, agreeing, in case many of the sheep break out afresh, to repeat the operation gratis even some months afterwards."

²⁶
The dunt, The *dunt* is a distemper caused by a bladder of water gathering in the head. No cure for this has yet been discovered.

²⁷
Rickets, The *rickets* is a hereditary disease for which no antidote is known. The first symptom is a kind of light-headedness, which makes the affected sheep appear wilder than usual when the shepherd or any person approaches him. He bounces up suddenly from his laze, and runs to a distance, as though he were pursued by dogs. In the second stage the principal symptom is the sheep's rubbing himself against trees, &c. with such fury as to pull off his wool and tear away his flesh. "The distressed animal has now a violent itching in his skin, the effect of an highly inflamed blood; but it does not appear that there is ever any cutaneous eruption or salutary critical discharge. In short, from all circumstances, the fever appears now to be at its height."—The last stage of this disease "seems only to be the progress of dissolution, after an unfavourable crisis. The poor animal, as condemned by Nature, appears stupid, walks irregularly (whence probably the name *rickets*), generally lies, and eats little: these symptoms increase in degree till death, which follows a general consumption, as appears upon dissection of the carcase; the juices and even solids having suffered a general dissolution."

In order to discover the seat and nature of this disease, sheep that die of it ought to be dissected. This is said to have been done by one gentleman, Mr Beal; and he found in the brain or membranes adjoining a maggot about a quarter of an inch long, and of a brownish colour. A few experiments might easily determine this fact.

²⁸
Fly-struck, The *fly-struck* is cured by clipping the wool off as far as infected, and rubbing the parts dry with lime or wood-ashes; curriers oil will heal the wounds, and prevent their being struck any more; or they may be cured with care, without clipping, with oil of turpentine, which will kill all the vermin where it goes; but the former is the surest way.

²⁹
Flux, The *flux* is another disease to which sheep are subject. The best remedy is said to be, to house the sheep immediately when this distemper appears, to keep them very warm, and feed them on dry hay, giving them frequent glisters of warm milk and water. The cause of that distemper is either their feeding on wet lands, or on grass that is become mossy by the lands having been fed many years without being ploughed. When the farmer perceives his sheep-walks to become mossy, or to produce bad grass, he should either plough or manure with hot lime, making kilns either very near or in the sheep walks, because the hotter the lime is put on, the sweeter the grass comes up, and that early in the year.

³⁰
And burst- *Burfling*, or as it is called in some places the *b. s.*, attacks sheep when driven into fresh grass or young clover. They overeat themselves, foam at the mouth, swell exceedingly, breathe very quick and short, then jump up, and instantly fall down dead. In this case,

the only chance of saving their life is by stabbing them in the maw with an instrument made for the purpose. The instrument is a hollow tube, with a pointed weapon passing through it. A hole is made with the pointed weapon; which is immediately withdrawn, and the hole is kept open by inserting the tube till the wind is discharged.

Sheep are infested with worms in their nose called *astrus oves*, and produced from the egg of a large two-winged fly. The frontal sinuses above the nose in sheep and other animals are the places where these worms live and attain their full growth. These sinuses are always full of a soft white matter, which furnishes these worms with a proper nourishment, and are sufficiently large for their habitation; and when they have here acquired their destined growth, in which they are fit to undergo their changes for the fly-state, they leave their old habitation, and, falling to the earth, bury themselves there; and when these are hatched into flies, the female, when she has been impregnated by the male, knows that the nose of a sheep or other animal is the only place for her to deposit her eggs, in order to their coming to maturity. Mr Vallisnieri, to whom the world owes so many discoveries in the insect class, is the first who has given any true account of the origin of these worms. But though their true history had been till that time unknown, the creatures themselves were very early discovered, and many ages since were esteemed great medicines in epilepsies.

The fly produced from this worm has all the time of its life a very lazy disposition, and does not like to make any use either of its legs or wings. Its head and corselet together are about as long as its body, which is composed of five rings, streaked on the back; a pale yellow and brown are there disposed in irregular spots; the belly is of the same colours, but they are there more regularly disposed, for the brown here makes three lines, one in the middle, and one on each side, and all the intermediate spaces are yellow. The wings are nearly of the same length with the body, and are a little inclined in their position, so as to lie upon the body: they do not, however, cover it; but a naked space is left between them. The ailerons or petty wings which are found under each of the wings are of a whitish colour, and perfectly cover the balancers, so that they are not to be seen without lifting up these.

The fly will live two months after it is first produced, but will take no nourishment of any kind; and possibly it may be of the same nature with the butterflies, which never take any food during the whole time of their living in that state. Reaumur, Hist. Inf. vol. iv. p. 552, &c.

To find a proper composition for marking sheep is a matter of great importance, as great quantities of wool are every year rendered useless by the pitch and tar with which they are usually marked. The requisite qualities for such a composition are, that it be cheap, that the colour be strong and lasting, so as to bear the changes of weather, and not to injure the wool. Dr Lewis recommends for this purpose melted tallow, with so much charcoal in fine powder stirred into it as is sufficient to make it of a full black colour, and of a thick consistence. This mixture, being applied warm with a marking iron, on pieces of flannel, quickly fixed or hardened, bore moderate rubbing, resisted the sun and rain, and

Sheep.

³¹
Account of the nose-worms which infest sheep.

³²
Composition for marking sheep.

Sheep
||
Sheffield.

and yet could be washed out freely with soap, or ley, or stale urine. In order to render it still more durable, and prevent its being rubbed off, with the tallow may be melted an eighth, sixth, or fourth, of its weight of tar, which will readily wash out along with it from the wool. Lewis's Com. Phil. Techn. p. 361.

SHEEP-Stealing. See *THEFT*.

SHEERING, in the sea-language. When a ship is not steered steadily, they say she sheers, or goes sheering; or when, at anchor, she goes in and out by means of the current of the tide, they also say she sheers.

SHEERNESS, a fort in Kent, seated on the point where the river Medway falls into the Thames. It was built by king Charles II. after the insult of the Dutch, who burnt the men of war at Chatham. The buildings belonging to it, in which the officers lodge, make a pretty little neat town; and there is also a yard and a dock, a chapel and a chaplain. Mr Lyons, who sailed with the Honourable Captain Phipps in his voyage towards the pole, fixed the longitude of Sheerness to $0. 48'$. E. its latitude $51^{\circ} 25'$.

SHEERS, a name given to an engine used to hoist or displace the lower masts of a ship. The sheers employed for this purpose in the royal navy are composed of several long masts, whose heels rest upon the side of the hulk, and having their heads declining outward from the perpendicular, so as to hang over the vessel whose masts are to be fixed or displaced. The tackles, which extend from the head of the mast to the sheer-heads, are intended to pull in the latter toward the mast-head, particularly when they are charged with the weight of a mast after it is raised out of any ship, which is performed by strong tackles depending from the sheer-heads. The effort of these tackles is produced by two capsterns, fixed on the deck for this purpose.

In merchant ships this machine is composed of two masts or props, erected in the same vessel wherein the mast is to be planted, or from whence it is to be removed. The lower ends of these props rest on the opposite sides of the deck, and their upper parts are fastened across, so as that a tackle which hangs from the intersection may be almost perpendicularly above the station of the mast to which the mechanical powers are applied. These sheers are secured by stays, which extend forward and aft to the opposite extremities of the vessel.

SHEET-LEAD. See *PLUMBERY*.

SHEET, in sea-language, a rope fastened to one or both the lower corners of a sail, to extend and retain it in a particular station. When a ship sails with a lateral wind, the lower corner of the main and fore sail are fastened by a tack and a sheet; the former being to windward, and the latter to leeward; the tack, however, is entirely diffused with a stern wind, whereas the sail is never spread without the assistance of one or both of the sheets. The stay-sails and studding-sails have only one tack and one sheet each: the stay-sail tacks are always fastened forward, and the sheet drawn aft; but the studding-sail tack draws the under clue of the sail to the extremity of the boom, whereas the sheet is employed to extend the inmost.

SHEFFIELD, a town in the west riding of Yorkshire, about 162 miles from London, is a large, thriving, populous town on the borders of Derbyshire; has a fine stone bridge over the Don, and another over the Sheaf, and a church built in the reign of Henry I.

It had a castle built in the reign of Henry III. in Sheffield which, or else in the manor-house of the Park, Mary Queen of Scots was prisoner 16 or 17 years; but after the death of Charles I. it was, with several others, by order of parliament demolished. In 1673 an hospital was erected here, and endowed with 200l. a-year. There is a charity-school for 30 boys, and another for 30 girls. This town has been noted several hundred years for cutlers and smiths manufactures, which were encouraged and advanced by the neighbouring mines of iron, particularly for files and knives, or whittles; for the last of which especially it has been a staple for above 300 years; and it is reputed to excel Birmingham in these wares, as much as it is surpassed by it in locks, hinges, nails, and polished steel. The first mills in England for turning grindstones were also set up here. The houses look black from the continual smoke of the forges. Here are 600 master cutlers, incorporated by the style of the *Cutlers of Hallamshire* (of which this is reckoned the chief town), who employ not less than 40,000 persons in the iron manufactures; and each of the masters gives a particular stamp to his wares. There is a large market on Tuesday for many commodities, but especially for corn, which is bought up here for the whole West Riding, Derbyshire, and Nottinghamshire. It has fairs on Tuesday after Trinity-Sunday, and November 28. In the new market-place, erected by the Duke of Norfolk, the shambles are built upon a most excellent plan, and strongly inclosed. There are several other new good buildings, such as a large and elegant octagon chapel belonging to the hospital or almshouses; likewise a good assembly-room and theatre. We must not omit the large steam-engine, lately finished, for the purpose of polishing and grinding the various sorts of hardware. The parish being very large, as well as populous, Mary I. incorporated 12 of the chief inhabitants, and their successors for ever, by the style of the *Twelve Capital Burgeffes of Sheffield*, empowering them to elect and ordain three priests to assist the vicar, who were to be paid out of certain lands and rents which she gave out of the crown; and since this settlement two more chapels have been built in two hamlets of this parish, which are served by two of the assistants, while the third, in his turn, helps the vicar in his parish-church. James I. founded a free grammar-school here, and appointed 13 school burgeffes to manage the revenue, and appoint the master and usher. A new chapel was built lately by the contributions of the people of the town and of the neighbouring nobility and gentry. Water is conveyed by pipes into Sheffield, whose inhabitants pay but a moderate rent for it. In the neighbourhood there are some mines of alum. The remains of the Roman fortification between this town and Rotherham, which is six miles lower down the river, are still visible; and here is also the famous trench of five miles long, by some called *Devil's* or *Dane's Bank*, and by others *Kemp Bank* and *Temple's Bank*. W. Long. i. 29. N. Lat. $53. 20$.

SHEFFIELD (John), duke of Buckinghamshire, an eminent writer of the last and present century, of great personal bravery, and an able minister of state, was born about 1650. He lost his father at nine years of age; and his mother marrying lord Ossulston, the care of his education was left entirely to a governor, who did not greatly improve him in his studies. Finding that he was deficient in many parts of

Sheffield,
Sheffield-
dia.

of literature, he resolved to devote a certain number of hours every day to his studies; and thereby improved himself to the degree of learning he afterwards attained. Though possessed of a good estate, he did not abandon himself to pleasure and indolence, but entered a volunteer in the second Dutch war; and accordingly was in that famous naval engagement where the duke of York commanded as admiral: on which occasion his lordship behaved so gallantly, that he was appointed commander of the Royal Catharine. He afterward made a campaign in the French service under M. de Turenne. As Tangier was in danger of being taken by the Moors, he offered to head the forces which were sent to defend it; and accordingly was appointed to command them. He was then earl of Mulgrave, and one of the lords of the bed-chamber to king Charles II. The Moors retired on the approach of his majesty's forces; and the result of the expedition was the blowing up of Tangier. He continued in several great posts during the short reign of king James II. till that unfortunate prince was dethroned. Lord Mulgrave, though he paid his respects to king William before he was advanced to the throne, yet did not accept of any post in the government till some years after. In the sixth year of William and Mary he was created marquis of Normanby in the county of Lincoln. He was one of the most active and zealous opposers of the bill which took away Sir John Fenwick's life; and exerted the utmost vigour in carrying through the Treason Bill, and the bill for Triennial Parliaments. He enjoyed some considerable posts under king William, and enjoyed much of his favour and confidence. In 1702 he was sworn lord privy-seal; and in the same year was appointed one of the commissioners to treat of an union between England and Scotland. In 1703 he was created duke of Normanby, and soon after duke of Buckinghamshire. In 1711 he was made steward of her majesty's household, and president of the council. During queen Anne's reign he was but once out of employment; and then he voluntarily resigned, being attached to what were called the *Tory principles*. Her majesty offered to make him lord-chancellor; but he declined the office. He was instrumental in the change of the ministry in 1710. A circumstance that reflects the highest honour on him is, the vigour with which he acted in favour of the unhappy Catalans, who afterward were so inhumanly sacrificed. He was survived by only one legitimate son (who died at Rome in 1735); but left several natural children. His worst enemies allow that he lived on very good terms with his last wife, natural daughter to king James II. the late duchess of Buckingham, a lady who always behaved with a dignity suitable to the daughter of a king. He died in 1721. He was admired by the poets of his age; by Dryden, Prior, and Garth. His Essay on Poetry was applauded by Addison, and his Rehearsal is still read with pleasure. His writings were splendidly printed in 1723, in two volumes 4to; and have since been reprinted in 1729, in two vols 8vo. The first contains his poems on various subjects: the second, his prose works; which consist of historical memoirs, speeches in parliament, characters, dialogues, critical observations, essays, and letters. It may be proper to observe, that the edition of 1729 is castrated; some particulars relating to the revolution in that of 1723 having given offence.

SHEFFIELDIA, in botany; a genus of plants

belonging to the class of pentandria, and to the order of monogynia. The corolla is bell-shaped; the filaments are 10, of which every second is barren. The capsule consists of one cell, which has four valves. There is only one species, the *repens*.

SHEIK, in the oriental customs, the person who has the care of the mosques in Egypt; his duty is the same as that of the imams at Constantinople. There are more or fewer of these to every mosque, according to its size or revenue. One of these is head over the rest, and answers to a parish-priest with us; and has under him, in large mosques, the readers, and people who cry out to go to prayers; but in small mosques the sheik is obliged to do all this himself. In such it is their business to open the mosque, to cry to prayers, and to begin their short devotions at the head of the congregation, who stand rank and file in great order, and make all their motions together. Every Friday the sheik makes an harangue to his congregation.

SHEIK-Bellet, the name of an officer in the Oriental nations. In Egypt the sheik-bellet is the head of a city, and is appointed by the pacha. The business of this officer is to take care that no innovations be made which may be prejudicial to the Porte, and that they send no orders which may hurt the liberties of the people. But all his authority depends on his credit and interest, not his office: for the government of Egypt is of such a kind, that often the people of the least power by their posts have the greatest influence; and a caia of the janizaries or Arabs, and sometimes one of their meanest officers, an oda-basha, finds means, by his parts and abilities, to govern all things.

SHEILDS. See SHIELDS.

SHEKEL, the name of a weight and coin current among the ancient Jews. Dr Arbuthnot makes the weight of the shekel equal to 9 pennyweights $2\frac{1}{2}$ grains Troy weight; and the value equal to 2 s. $3\frac{1}{2}$ d. Sterling. The golden shekel was worth L. 1 : 16 : 6.

SHELDRAKE, in ornithology. See ANAS.

SHELF, among miners, the same with what they otherwise call *fast ground* or *fast country*; being that part of the internal structure of the earth which they find lying even and in an orderly manner, and evidently retaining its primitive form and situation.

SHELL, in natural history, a hard, and, as it were, stony covering, with which certain animals are defended, and thence called *shell-fish*.

The singular regularity, beauty, and delicacy in the structure of the shells of animals, and the variety and brilliancy in the colouring of many of them, at the same time that they strike the attention of the most inquisitive observers, have at all times excited philosophers to inquire into and detect, if possible, the causes and manner of their formation. But the attempts of naturalists, ancient and modern, to discover this process, have constantly proved unsuccessful. M. de Reaumur hitherto appears alone to have given a plausible account, at least, of the formation of the shell of the garden-snail in particular, founded on a course of very ingenious experiments, related in the Paris Memoirs*. He there endeavours to show, that this substance is produced merely by the perspirable matter of the animal condensed and afterwards hardening on its surface, and accordingly taking the figure of its body, which has performed the office of a mould to it; in short, that the shell of a snail, and, as he supposed, of all other animals pos-
felled

Sheik
||
Shell

Formation
of shells.

* See Memoirs
de l'Acad.
année 1709,
p. 475.
Edit. de
Hollande,
in 12mo.

Shell,

fessed of shells, was only the product of a viscous transudation from the body of the animal, containing earthy particles united by mere juxtaposition. This hypothesis, however, is liable to very great and insurmountable difficulties, if we apply it to the formation of some of the most common shells: for how, according to this system, it may be asked, can the oyster, for instance, considered simply as a mould, form to itself a covering so much exceeding its own body in dimensions?

2
Are composed of an earthy and an animal substance.

M. Herissant, in the Memoirs of the Academy of Sciences for 1766, has discovered the structure of shells to be organical. In the numerous experiments that he made on an immense number, and a very great variety, of animal shells, he constantly found that they were composed of two distinct substances; one of which is a cretaceous or earthy matter; and the other appeared, from many experiments made upon it by burning, distillation, and otherwise, to be evidently of an animal nature. These two substances he dexterously separated from each other by a very easy chemical analysis; by the gentle operation of which they were exhibited distinctly to view, without any material alteration from the action of the solvent, or instrument employed for that purpose. On an entire shell or a fragment of one, contained in a glass vessel, he poured a sufficient quantity of the nitrous acid, considerably diluted either with water or spirit of wine. After the liquor has dissolved all the earthy part of the shell (which may be collected after precipitation by a fixed or volatile alkali), there remains floating in it a soft substance, consisting of innumerable membranes of a retiform appearance, and disposed, in different shells, in a variety of positions, which constitutes the animal-part of it. This, as it has not been affected by the solvent, retains the exact figure of the shell; and, on being viewed through a microscope, exhibits satisfactory proofs of a vascular and organical structure. He shows that this membranous substance is an appendix to the body of the animal, or a continuation of the tendinous fibres that compose the ligaments by which it is fixed to its shell; and that this last owes its hardness to the earthy particles conveyed through the vessels of the animal, which fix themselves into, and incrust, as it were, the meshes formed by the reticular filaments of which this membranous substance is composed. In the shell called *porcelaine*, in particular, the delicacy of these membranes was so great, that he was obliged to put it into spirit of wine, to which he had the patience to add a single drop of spirit of nitre day by day, for the space of two months; lest the air generated, or let loose by the action of the acid on the earthy substance, should tear the compages of its fine membranous structure into shatters; as it certainly would have done in a more hasty and less gentle dissolution. The delicate reticulated film, left after this operation, had all the tenuity of a spider's web; and accordingly he does not attempt to delineate its organization. In other shells he employed even five or six months in demonstrating the complicated membranous structure of this animal-substance by this kind of chemical anatomy. In general, however, the process does not require much time.

3
Their membranous structure produces great variety of colours.

Of the many singular configurations and appearances of the membranous part of different shells, which are described in this memoir, and are delineated in several well executed plates, we shall mention only, as a specimen,

the curious membranous structure observed in the laminae of mother-of-pearl, and other shells of the same kind, after having been exposed to the operation of the author's solvent. Beside the great variety of fixed or permanent colours with which he found the animal-filaments of these shells to be adorned, it is known, that the shell itself presents to the view a succession of rich and changeable colours, the production of which he easily explains from the configurations of their membranes. Nature, he observes, always magnificent in her designs, but singularly frugal in the execution of them, produces these brilliant decorations at a very small expence. The membranous substance above-mentioned is plaited and rumpled, as it were, in such a manner, that its exterior laminae, incrustated with their earthy and semi-transparent matter, form an infinite number of little prisms, placed in all kinds of directions, which refract the rays of light, and produce all the changes of colour observable in these shells.

With respect to the figures and colours of shells, it is observed, that river shells have not so agreeable or diversified a colour as the land and sea shells; but the variety in the figure, colours, and other characters of sea shells, is almost infinite. The number of distinct species we find in the cabinets of the curious is very great; and doubtless the deep bottoms of the sea, and the shores yet unexplored contain multitudes still unknown to us. Even the same species differ in some degree in almost every individual; so that it is rare to find any two shells which are alike in all respects.

This wonderful variety, however, is not all the produce of one sea or one country; the different parts of the world afford us their different beauties. Bonani observes, that the most beautiful shells we are acquainted with come from the East Indies and from the Red sea. This is in some degree countenanced by what is found to this day; and from the general observations of the curious, it seems, that the sun, by the great heat that it gives to the countries near the line, exalts the colours of the shells produced there, and gives them a lustre and brilliancy that those of colder climates always want: and it may be, that the waters of those vast seas, which are not subject to be weakened by fresh rivers, give a nourishment to the fish, that may add to the brilliancy of their shells.

The shores of Asia furnish us with the pearl-oysters and scallops in great perfection. About Amboyna are found the most beautiful specimens of the cabbage-shell, the arrosoir, the ducal mantle, and the coral oysters, or echinated oysters. Here also are found a great variety of extremely beautiful muscles, tellinæ, and volutæ; some fine buccinums, and the shell called the *Ethiopian crown*, in its greatest perfection. The dolia, the murices, and the cassandræ, are also found on these coasts in great beauty. Many elegant snails and screw-shells are also brought from thence; and finally, the serapion and spider-shells. The Maldivæ and Philippine islands, Bengal, and the coast of Malabar, abound with the most elegant of all the species of snails, and furnish many other kinds of shells in great abundance and perfection. China abounds in the finest species of porcelain shells, and has also a great variety of beautiful snails. Japan furnishes us with all the thicker and larger bivalves; and the isle of Cyprus is famous above all other parts of the world for the beauty and variety of the patella or limpet found there.

Shell.

4
Whence the most beautiful shells are obtained.

5
Shells found in Asia.

Shells.
6
In America.

America affords many very elegant shells, but neither in so great abundance nor beauty as the shores of Asia. Panama is famous for the cylinders or rhombi, and we have beside, from the same place, some good porcelains, and a very fine species of *dolium*, or *concha globosa*, called from this place the *Panama purple shell*. One of the most beautiful of the cylinders is also known among our naturalists under the name of the *Panama shell*. About Brasil, and in the gulf of Mexico, there are found murices and dolia of extreme beauty; and also a great variety of porcelains, purpuræ, pectens, neritæ, bucardiæ or heart-shells, and elegant limpets. The isle of Cayenne affords one of the most beautiful of the buccinum kind, and the Midas ear is found principally about this place. Jamaica and the island of Barbadoes have their shores covered with porcelains, chamæ, and buccina; and at St Domingo there are found almost all the same species of shells that we have from the East Indies; only they are less beautiful, and the colours more pale and dead. The pearl-oyster is found also on this coast, but smaller than in the Persian gulf. At Martinico there are found in general the same shells as at St Domingo, but yet less beautiful. About Canada are found the violet chamæ, and the lakes of that country abound with muscles of a very elegant pale blue and pale red colours. Some species of these are remarkably light and thin; others are very thick and heavy. The Great Bank of Newfoundland is very barren in shells: the principal kind found there are muscles of several species, some of which are of considerable beauty. About Carthage there are many mother-of-pearl shells, but they are not of so brilliant colours as those of the Persian gulf. The island of Magellan, at the southern point of America, furnishes us with a very remarkable species of muscle called by its name; and several very elegant species of limpets are found there, particularly the pyramidal.

7
In Africa.

In Africa, on the coast of Guinea, there is a prodigious quantity of that small species of porcelain which is used there as money; and there is another species of porcelain on the same coast which is all over white: the women make bracelets of these, and the people of the Levant adorn their hair with them. The coast of Zanguebar is very rich in shells: we find there a vast variety of the large porcelains, many of them of great beauty; and the *nux maris* or sea-nut is very frequent there. Beside these, and many other shells, there are found on this coast all the species of nautili, many of which are very beautiful. The Canary isles abound with a vast variety of the murices, and some other good shells; and we have from Madeira great variety of the echini or sea-eggs different from those of the European seas. Several species of muscles are also common there, and the auris marina is nowhere more abundant. The Red sea is beyond all other parts of the world abundant in shells, scarce any kind is wanting there; but what we principally have from thence are the purpuræ, porcelains, and echini marini.

8
In some islands of the Mediterranean and the coasts surrounding it.

The Mediterranean and Northern ocean contain a great variety of shells, and many of very remarkable elegance and beauty; they are upon the whole, however, greatly inferior to those of the East Indies. The Mediterranean abounds much more in shells than the Ocean. The gulf of Tarentum affords great variety of purpuræ, of porcelains, nautili, and elegant oysters; the coasts of Naples and Sardinia afford also the same, and

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with them a vast number of the solens of all the known species. The island of Sicily is famous for a very elegant kind of oyster which is white all over; pinnæ marinæ and porcelains are also found in great plenty there, with tellinæ and chamæ of many species, and a great variety of other beautiful shells. Corsica is famous, beyond all other places, for vast quantities of the pinnæ marinæ; and many other very beautiful shells are found there. (Lister, Hist. Conchyl.) About Syracuse are found the gondola shell, the alated murex, and a great variety of elegant snails, with some of the dolia and neritæ. The Adriatic sea, or gulf of Venice, is less furnished with shells than almost any of the seas thereabout. Muscles and oysters of several species are however found there, and some of the cordiform or heart-shells; there are also some tellinæ. About Ancona there are found vast numbers of the pholades buried in stone; and the aures marinæ are particularly frequent about Puzzoli. (Bonani, Recreat. Ment. et Ocul.)

The ports of Marseilles, Toulon, and Antibes, are full of pinnæ marinæ, muscles, tellinæ, and chamæ. The coasts of Bretagne afford great numbers of the conchæ anatifera and pouffepieds; they are found on old rotten boards, on sea substances, and among clusters of sponges. The other ports of France, as Rochelle, Dunkirk, Brest, St Maloes, and others, furnish oysters excellent for the table, but of the common kind, and of no beauty in their shells; great numbers of muscles are also found there; and the common tellinæ, the onion-peel oysters, the solens, and conchæ anatifera, are also frequent there. At Granville, in Lower Normandy, there are found very beautiful pectens, and some of the cordiform or heart-shells.

9
On the coast of France,

Our own English coasts are not the least fruitful in shells, tho' they do not produce such elegantly painted ones as the Indies. About Plymouth are found oysters, muscles, and solens, in great abundance; and there, and on most of our other shores, are numbers of the aures marinæ and dentalia, with pectens, which are excellent food; and many elegant species of the chamæ and tellinæ are fished up in the sea about Scarborough and other places. Ireland affords us great numbers of muscles, and some very elegant scallop-shells in great abundance, and the pholades are frequent on most of our shores. We have also great variety of the buccina and cochleæ, some volutæ; and, on the Guernsey coast, a peculiarly beautiful snail, called thence the *Guernsey snail*.

10
Of Britain,

The coasts of Spain and Portugal afford much the same species of shells with the East Indies, but they are of much fainter colours, and greatly inferior in beauty. There are, according to Tavernier and others, some rivers in Bavaria in which there are found pearls of a fine water. About Cadiz there are found very large pinnæ marinæ, and some fine buccina. The isles of Majorca and Minorca afford a great variety of extremely elegant shells. The pinnæ marinæ are also very numerous there, and their silk is wrought into gloves, stockings, and other things. The Baltic affords a great many beautiful species, but particularly an orange-coloured pecten, or scallop-shell, which is not found in any other part of the world.

11
Of Spain and Portugal, &c.

The fresh water shells are found much more frequently, and in much greater plenty than the sea kinds; there is scarce a pond, a ditch, or a river of fresh water in any part of the world in which there

12
Fresh water shells.

Y y

are

Shells.

are not found vast numbers of these shells with the fish living in them. All these shells are small, and they are of very little beauty, being usually of a plain greyish or brownish colour. Our ditches afford us *chamæ*, *buccina*, *neritæ*, and some *patellæ*; but the Nile, and some other rivers, furnished the ancients with a species of *tellina* which was large and eatable, and so much superior to the common sea *tellina* in flavour, that it is commonly known by the name of *tellina regia*, "the royal *tellina*." We have a small species of *buccinum* common in our fresh waters, which is very elegant, and always has its operculum in the manner of the larger *buccina*; a small kind of muscle is also very common, which is so extremely thin and tender, that it can hardly be handled without breaking to pieces. The large fresh water muscle, commonly called in England the *horse-muscle*, is too well known to need a description; and the size sufficiently distinguishes it from all other fresh water shells.

In collecting shells, it is most advisable, whenever it can be done, to get those which have in them the living animals; because we shall thus obtain the natural history of the animals, and the shells themselves in their natural beauty, and the full glow of their colours. Shells should be also procured from the deeper parts of their resorts, and immediately after storms on the sea beaches and shores; because, by being much exposed to the sun, their colours fade, and they are liable to other accidents that injure them. In order to kill the fish that inhabits them, Mr Da Costa advises to give them a quick dip in boiling water, and when they are cooled, to lay them in cold water till they are cleaned; and in this operation they should not be touched with aquafortis, or any other acid, nor exposed to the heat of the fire and sun.

13
Art of polishing shells.

The art of polishing shells arrived but lately at its present state of perfection; and as the love of sea-shells is become so common among us, it may not be disagreeable to the reader to find some instructions in executing so pleasing a method of adding to their natural beauty, the rules for which are at present so little known, though the effect of them be so much esteemed.

Among the immense variety of shells which we are acquainted with, some are taken up out of the sea, or found on its shores in all their perfection and beauty; their colours being all spread by nature upon the surface, and their natural polish superior to any thing that art could give. Where nature is in herself thus perfect, it were madness to attempt to add any thing to her charms: but in others, where the beauties are latent and covered with a coarser outer skin, art is to be called in; and the outer veil being taken off, all the internal beauties appear.

Among the shells which are found naturally polished are the porcelains, or cowries; the cassanders; the *dolia*, or *conchæ globosæ*, or tuns; some *buccina*, the volutes, and the cylianders, or olives, or, as they are generally though improperly called, the *rhombi*; excepting only two or three, as the *tiara*, the plumb, and the butter-tub rhombus, where there is an unpromising film on the surface, hiding a very great share of beauty within. Though the generality of the shells of these genera are taken out of the sea in all their beauty, and in their utmost natural polish, there are several other genera, in which all or most of the species are taken up naturally rough and foul, and covered with an epidermis, or coarse

Shells.

outer skin, which is in many rough and downy or hairy. The *tellinæ*, the muscles, the *cochleæ*, and many others, are of this kind. The more nice collectors, as naturalists, insist upon having all their shells in their native and genuine appearance, as they are found when living at sea; but the ladies, who make collections, hate the disagreeable outsides, and will have all such polished. It would be very advisable, however, for both kinds of collectors to have the same shells in different specimens both rough and polished: the naturalist would by this means, besides knowing the outside of the shell, be better acquainted with its internal characters than he otherwise could be, and the lady would have a pleasure in comparing the beauties of the shell, in its wrought state, to its coarse appearance as nature gives it. How many elegancies in this part of the creation must be wholly lost to us, if it were not for the assistance of an art of this kind! Many shells in their native state are like rough diamonds; and we can form no just idea of their beauties till they have been polished and wrought into form.

Though the art of polishing shells is a very valuable one, yet it is very dangerous to the shells; for without the utmost care, the means used to polish and beautify a shell often wholly destroy it. When a shell is to be polished, the first thing to be examined is whether it have naturally a smooth surface, or be covered with tubercles or prominences.

A shell which has a smooth surface, and a natural dull polish, need only be rubbed with the hand, or with a piece of chamoy leather, with some tripoli, or fine rotten stone, and will become of a perfectly bright and fine polish. Emery is not to be used on this occasion, because it wears away too much of the shell. This operation requires the hand of an experienced person, that knows how superficial the work must be, and where he is to stop; for in many of these shells the lines are only on the surface, and the wearing away ever so little of the shell defaces them. A shell that is rough, foul, and crusty, or covered with a tartareous coat, must be left a whole day steeping in hot water: when it has imbibed a large quantity of this, it is to be rubbed with rough emery on a stick, or with the blade of a knife, in order to get off the coat. After this, it may be dipped in diluted aquafortis, spirit of salt, or any other acid; and after remaining a few moments in it, be again plunged into common water. This will add greatly to the speed of the work. After this it is to be well rubbed with linen cloths, impregnated with common soap; and when by these several means it is made perfectly clean, the polishing is to be finished with fine emery and a hair-brush. If after this the shell when dry appears not to have so good a polish as was desired, it must be rubbed over with a solution of gum arabic; and this will add greatly to its gloss, without doing it the smallest injury. The gum-water must not be too thick, and then it gives no sensible coat, only heightening the colours. The white of an egg answers this purpose also very well; but it is subject to turn yellow. If the shell has an epidermis, which will by no means admit the polishing of it, it is to be dipped several times in diluted aquafortis, that this may be eaten off; and then the shell is to be polished in the usual way with putty, fine emery, or tripoli, on the hair of a fine brush. When it is only a pellicle that hides the colours, the shells must be steeped in hot water, and after that the

Shells.

skin worked off by degrees with an old file. This is the case with several of the cylinders, which have not the natural polish of the rest.

When a shell is covered with a thick and fatty epidermis, as is the case with several of the muscles and tellinæ; in this case aquafortis will do no service, as it will not touch the skin: then a rough brush and coarse emery are to be used; and if this does not succeed, seal-skin, or, as the workmen call it, *fish-skin* and *pumice-stone*, are to be employed.

When a shell has a thick crust, which will not give way to any of these means, the only way left is to plunge it several times into strong aquafortis, till the stubborn crust is wholly eroded. The limpets, *auris marina*, the helmet-shells, and several other species of this kind, must have this sort of management; but as the design is to show the hidden beauties under the crust, and not to destroy the natural beauty and polish of the inside of the shell, the aquafortis must be used in this manner: A long piece of wax must be provided, and one end of it made perfectly to cover the whole mouth of the shell; the other end will then serve as a handle, and the mouth being stopped by the wax, the liquor cannot get in to the inside to spoil it; then there must be placed on a table a vessel full of aquafortis, and another full of common water.

The shell is to be plunged into the aquafortis; and after remaining a few minutes in it, is to be taken out, and plunged into the common water. The progress the aquafortis makes in eroding the surface is thus to be carefully observed every time it is taken out: the point of the shell, and any other tender parts, are to be covered with wax, to prevent the aquafortis from eating them away; and if there be any worm-holes, they also must be stopped up with wax, otherwise the aquafortis would soon eat through in those places. When the repeated dippings into the aquafortis show that the coat is sufficiently eaten away, then the shell is to be wrought carefully with fine emery and a brush; and when it is polished as high as can be by this means, it must be wiped clean, and rubbed over with gum-water or the white of an egg. In this sort of work the operator must always have the caution to wear gloves; otherwise the least touch of the aquafortis will burn the fingers, and turn them yellow; and often, if it be not regarded, will eat off the skin and the nails.

These are the methods to be used with shells which require but a moderate quantity of the surface to be taken off; but there are others which require to have a larger quantity taken off, and to be uncovered deeper; this is called entirely scaling a shell. This is done by means of a horizontal wheel of lead or tin, impregnated with rough emery; and the shell is wrought down in the same manner in which stones are wrought by the lapidary. Nothing is more difficult, however, than the performing this work with nicety: very often shells are cut down too far by it, and wholly spoiled; and to avoid this, a coarse vein must be often left standing in some place, and taken down afterwards with the file, when the cutting it down at the wheel would have spoiled the adjacent parts.

After the shell is thus cut down to a proper degree, it is to be polished with fine emery, tripoli, or rotten stone, with a wooden wheel turned by the same machine

as the leaden one, or by the common method of working with the hand with the same ingredients. When a shell is full of tubercles, or protuberances, which must be preserved, it is then impossible to use the wheel: and if the common way of dipping into aquafortis be attempted, the tubercles being harder than the rest of the shell, will be eat through before the rest is sufficiently scaled, and the shell will be spoiled. In this case, industry and patience are the only means of effecting a polish. A camel's-hair pencil must be dipped in aquafortis; and with this the intermediate parts of the shell must be wetted, leaving the protuberances dry: this is to be often repeated; and after a few moments the shell is always to be plunged into water to stop the erosion of the acid, which would otherwise eat too deep, and destroy the beauty of the shell. When this has sufficiently taken off the foulness of the shell, it is to be polished with emery of the finest kind, or with tripoli, by means of a small stick, or the common polishing-stone used by the goldsmiths may be used.

This is a very tedious and troublesome thing, especially when the echinated oysters and murices, and some other such shells, are to be wrought: and what is worst of all is, that when all this labour has been employed, the business is not well done; for there still remain several places which could not be reached by any instrument, so that the shell must necessarily be rubbed over with gum-water or the white of an egg afterwards, in order to bring out the colours and give a gloss; in some cases it is even necessary to give a coat of varnish.

These are the means used by artists to brighten the colours and add to the beauty of shells; and the changes produced by polishing in this manner are so great, that the shell can scarcely be known afterwards to be the same it was; and hence we hear of new shells in the cabinets of collectors, which have no real existence as separate species, but are shells well known, disguised by polishing. To caution the reader against errors of this kind, it may be proper to add the most remarkable species thus usually altered.

The onyx-shell or volute, called by us the *purple* or *violet-tip*, which in its natural state is of a simple pale brown, when it is wrought slightly, or polished with just the superficies taken off, is of a fine bright yellow; and when it is eaten away deeper, it appears of a fine milk-white, with the lower part bluish: it is in this state that it is called the *onyx-shell*; and it is preserved in many cabinets in its rough state, and in its yellow appearance, as different species of shells.

The *violet shells*, so common among the curious, is a species of porcelain, or common cowry, which does not appear in that elegance till it has been polished; and the common *auris marina* shows itself in two or three different forms, as it is more or less deeply wrought. In its rough state it is dusky and coarse, of a pale brown on the outside, and pearly within; when it is eaten down a little way below the surface, it shows variegations of black and green; and when still farther eroded, it appears of a fine pearly hue within and without.

The *nautilus*, when it is polished down, appears all over of a fine pearly colour; but when it is eaten away but to a small depth, it appears of a fine yellowish colour with dusky hairs. The *burgau*, when entirely cleared of its coat, is of the most beautiful pearl-colour;

Shells.

14
Some shells are so much disguised by polishing as not to be known, such as

15
The onyx-shell.

16
Violet shells.

17
Nautilus.

Shells

lour; but when but slightly eroded, it appears of a variegated mixture of green and red; whence it has been called the *parroquet shell*. The common helmet-shell, when wrought, is of the colour of the finest agate; and the muscles, in general, though very plain shells in their common appearance, become very beautiful when polished, and show large veins of the most elegant colours. The Persian shell, in its natural state, is all over white, and covered with tubercles; but when it has been ground down on a wheel, and polished, it appears of a grey colour, with spots and veins of a very bright and highly polished white. The limpets, in general, become very different when polished, most of them showing very elegant colours; among these the tortoise-shell limpet is the principal; it does not appear at all of that colour or transparency till it has been wrought.

18
Jurquil-
chama

That elegant species of shell called the *jurquil-chama*, which has deceived so many judges of these things into an opinion of its being a new species, is only a white chama with a reticulated surface; but when this is polished, it loses at once its reticular work and its colour, and becomes perfectly smooth, and of a fine bright yellow. The violet-coloured chama of New England, when worked down and polished, is of a fine milk-white, with a great number of blue veins, disposed like the variegations in agates.

19
The ass-
ear shell.

The *ass-ear shell*, when polished after working it down with the file, becomes extremely glossy, and obtains a fine rose-colour all about the mouth. These are some of the most frequent among an endless variety of changes wrought on shells by polishing; and we find there are many of the very greatest beauties of this part of the creation which must have been lost but for this method of searching deep in the substance of the shell for them.

20
Dutch method of polishing shells.

The Dutch are very fond of shells, and are very nice in their manner of working them: they are under no restraint, however, in their works; but use the most violent methods, so as often to destroy all the beauty of the shell. They file them down on all sides, and often take them to the wheel, when it must destroy the very characters of the species. Nor do they stop at this: but, determined to have beauty at any rate, they are for improving upon nature, and frequently add some lines and colours with a pencil, afterwards covering them with a fine coat of varnish, so that they seem the natural lineations of the shell: the Dutch cabinets are by these means made very beautiful, but they are by no means to be regarded as instructors in natural history. There are some artificers of this nation who have a way of covering shells all over with a different tinge from that which nature gives them; and the curious are often enticed by these tricks to purchase them for new species.

There is another kind of work bestowed on certain species of shells, particularly the nautilus; namely, the engraving on it lines and circles, and figures of stars, and other things. This is too obvious a work of art to suffer any one to suppose it natural. Buonani has figured several of these wrought shells at the end of his work; but this was applying his labour to very little purpose; the shells are spoiled as objects of natural history by it, and the engraving is seldom worth any thing.— They are principally done in the East Indies.

Shells are subject to several imperfections; some of which are natural and others accidental. The natural defects are the effect of age, or sickness in the fish. The greatest mischief happens to shells by the fish dying in them. The curious in these things pretend to be always able to distinguish a shell taken up with the fish alive from one found on the shores: they call the first a *living*, the second a *dead* shell; and say that the colours are always much fainter in the dead shells. When the shells have lain long dead on the shores, they are subject to many injuries, of which the being eaten by sea-worms is not the least: age renders the finest shells livid or dead in their colours.

Besides the imperfections arising from age and sickness in the fish, shells are subject to other deformities, such as morbid cavities, or protuberances, in parts where there should be none. When the shell is valuable, these faults may be hid, and much added to the beauty of the specimen, without at all injuring it as an object of natural history, which should always be the great end of collecting these things. The cavities may be filled up with mastic, dissolved in spirit of wine, or with isinglass: these substances must be either coloured to the tinge of the shell, or else a pencil dipped in water-colours must finish them up to the resemblance of the rest; and then the whole shell being rubbed over with gum-water, or with the white of an egg, scarce any eye can perceive the artifice: the same substances may also be used to repair the battered edge of a shell provided the pieces chipped off be not too large. And when the excrescences of a shell are faulty, they are to be taken down with a fine file. If the lip of a shell be so battered that it will not admit of repairing by any cement, the whole must be filed down or ground on the wheel till it become even.

Fossil Shells. Those found buried at great depths in the earth.

Of these some are found remaining almost entirely in their native state, but others are variously altered by being impregnated with particles of stone and of other fossils; in the place of others there is found mere stone or spar, or some other native mineral body, expressing all their lineaments in the most exact manner, as having been formed wholly from them, the shell having been first deposited in some solid matrix, and thence dissolved by very slow degrees, and this matter left in its place, on the cavities of stone and other solid substances, out of which shells had been dissolved and washed away, being afterwards filled up less slowly with these different substances, whether spar or whatever else: these substances, so filling the cavities, can necessarily be of no other form than that of the shell, to the absence of which the cavity was owing, though all the nicer lineaments may not be so exactly expressed. Besides these, we have also in many places masses of stone formed within various shells; and these having been received into the cavities of the shells while they were perfectly fluid, and having therefore nicely filled all their cavities, must retain the perfect figures of the internal part of the shell, when the shell itself should be worn away or perished from their outside. The various species we find of these are, in many genera, as numerous as the known recent ones; and as we have in our own island not only the shells of our own shores, but those of many other very distant ones, so we have

Shells.

also many species, and those in great numbers, which are in their recent state, the inhabitants of other yet unknown or unsearched seas and shores. The cockles, muscles, oysters, and the other common bivalves of our own seas, are very abundant: but we have also an amazing number of the nautilus kind, particularly of the nautilus græcorum, which though a shell not found living in our own or any neighbouring seas, yet is found buried in all our clay-pits about London and elsewhere; and the most frequent of all fossil shells in some of our counties are the conchæ anomæ, which yet we know not of in any part of the world in their recent state. Of this sort also are the cornua ammonis and the gryphitæ, with several of the echinitæ and others.

The exact similitude of the known shells, recent and fossil, in their several kinds, will by no means suffer us to believe that these, though not yet known to us in their living state, are, as some have idly thought, a sort of *lusus nature*. It is certain, that of the many known shores, very few, not even those of our own island, have been yet carefully searched for the shell-fish that inhabit them; and as we see in the nautilus græcorum an instance of shells being brought from very distant parts of the world to be buried here, we cannot wonder that yet unknown shores, or the unknown bottoms of deep seas, should have furnished us with many unknown shell-fish, which may have been brought with the rest; whether that were at the time of the general deluge, or the effect of any other catastrophe of a like kind, or by whatever other means, to be left in the yet unhardened matter of our stony and clayey strata.

SHELLS, in gunnery, are hollow iron balls to throw out of mortars or howitzers, with a fuse-hole of about an inch diameter, to load them with powder, and to receive the fuse. The bottom, or part opposite to the fuse, is made thicker than the rest, that the fuse may fall uppermost. But in small elevations this does not always happen, nor indeed is it necessary; for, let the shell fall as it will, the fuse sets fire to the powder within, which bursts the shell, and causes great devastation. The shells had much better be of an equal thickness; for then they burst into more pieces.

Message SHELLS, are nothing more than howitz-shells, in the inside of which a letter or other papers are put; the fuse hole is stopped up with wood or cork, and the shells are fired out of a royal or howitz, either into a garrison or camp. It is supposed, that the person to whom the letter is sent knows the time, and accordingly appoints a guard to look out for its arrival.

SHELL-Fish. These animals are in general oviparous, very few instances having been found of such as are viviparous. Among the oviparous kinds, anatomists have found that some species are of different sexes, in the different individuals of the same species; but others are hermaphrodites, every one being in itself both male and female. In both cases their increase is very numerous, and scarce inferior to that of plants, or of the most fruitful of the insect class. The eggs are very small, and are hung together in a sort of clusters by means of a glutinous humour, which is always placed about them, and is of the nature of the gelly of frog's spawn. By means of this, they are not only kept together in the parcel, but the whole cluster is fastened to the rocks, shells, or other solid substances; and thus

they are preserved from being driven on shore by the waves, and left where they cannot succeed. See TESTACEA.

SHELL-Gold. See GOLD.

SHELTIE, a small but strong kind of horse, so called from Shetland, or Zetland, where they are produced.

SHELVES, in sea-language, a general name given to any dangerous shallows, sand banks, or rocks, lying immediately under the surface of the water, so as to intercept any ship in her passage, and endanger her destruction.

SHENAN. See *Dying of LEATHER*, vol. ix. p. 750, foot-note.

SHENSTONE (William), an admired English poet, the eldest son of a plain country gentleman, who farmed his own estate in Shropshire, was born in November 1714. He learned to read of an old dame, whom his poem of the "School mistress" has delivered to posterity; and soon received such delight from books, that he was always calling for new entertainment, and expected that, when any of the family went to market, a new book should be brought him, which, when it came, was in fondness carried to bed, and laid by him. It is said, that when his request had been neglected, his mother wrapped up a piece of wood of the same form, and pacified him for the night. As he grew older, he went for a while to the grammar-school in Hales-Owen, and was placed afterwards with Mr Crumpton, an eminent school-master at Solihul, where he distinguished himself by the quickness of his progress. When he was young (June 1724), he was deprived of his father; and soon after (August 1726) of his grandfather; and was, with his brother, who died afterwards unmarried, left to the care of his grandmother, who managed the estate. From school he was sent, in 1732, to Pembroke college in Oxford, a society which for half a century has been eminent for English poetry and elegant literature. Here it appears that he found delight and advantage; for he continued his name there ten years, though he took no degree. After the first four years he put on the civilian's gown, but without showing any intention to engage in the profession. About the time when he went to Oxford, the death of his grandmother devolved his affairs to the care of the reverend Mr Dolman, of Brome, in Staffordshire, whose attention he always mentioned with gratitude. —At Oxford he applied to English poetry; and, in 1737, published a small Miscellany, without his name. He then for a time wandered about, to acquaint himself with life, and was sometimes at London, sometimes at Bath, or any place of public resort; but he did not forget his poetry. He published, in 1740, his "Judgment of Hercules," addressed to Mr Lyttleton, whose interest he supported with great warmth at an election; this was two years afterwards followed by the "School-mistress." Mr Dolman, to whose care he was indebted for his ease and leisure, died in 1745, and the care of his fortune now fell upon himself. He tried to escape it a while, and lived at his house with his tenants, who were distantly related; but, finding that imperfect possession inconvenient, he took the whole estate into his own hands, an event which rather improved its beauty than increased its produce. Now began his delight in rural pleasures, and his passion of rural elegance; but in time his expences occasioned

Sheltie

Shenstone.

Shenstone
||
Sherbet.

occasioned clamours that overpowered the lamb's bleat and the linnet's song, and his groves were haunted by beings very different from fawns and fairies. He spent his estate in adorning it, and his death was probably hastened by his anxieties. He was a lamp that spent its oil in blazing. It is said, that if he had lived a little longer, he would have been assisted by a pension; such bounty could not have been more properly bestowed, but that it was ever asked is not certain; it is too certain that it never was enjoyed.— He died at the Leaflowes, of a putrid fever, about five on Friday morning, Feb. 11. 1763; and was buried by the side of his brother, in the churchyard of Hales-Owen.

In his private opinions, our author adhered to no particular sect, and hated all religious disputes. Tenderness, in every sense of the word, was his peculiar characteristic; and his friends, domestics, and poor neighbours, daily experienced the effects of his benevolence. This virtue he carried to an excess that seemed to border upon weakness; yet if any of his friends treated him ungenerously, he was not easily reconciled. On such occasions, however, he used to say, "I never will be a revengeful enemy; but I cannot, it is not in my nature, to be half a friend." He was no economist; for the generosity of his temper prevented his paying a proper regard to the use of money: he exceeded therefore the bounds of his paternal fortune. But, if we consider the perfect paradise into which he had converted his estate, the hospitality with which he lived, his charities to the indigent, and all out of an estate that did not exceed 300 l. a-year, one should rather wonder that he left any thing behind him, than blame his want of economy: he yet left more than sufficient to pay all his debts, and by his will appropriated his whole estate to that purpose. Though he had a high opinion of many of the fair sex, he forbore to marry. A passion he entertained in his youth was with difficulty surmounted. The lady was the subject of that admirable pastoral, in four parts, which has been so universally and so justly admired, and which, one would have thought, must have softened the proudest and most obdurate heart. His works have been published by Mr Doddsley, in 3 vols 8vo. The first volume contains his poetical works, which are particularly distinguished by an amiable elegance and beautiful simplicity; the second volume contains his prose works; the third his letters, &c. *Biographical Dictionary*.

SHEPPEY, an island at the mouth of the river Medway, about 20 miles in circumference. It is separated from the main land by a narrow channel, and has a fertile soil, which feeds great flocks of sheep. The borough-town of Queenborough is seated thereon; besides which it has several villages.

SHERARDIA, in botany: A genus of the monogynia order, belonging to the tetrandria class of plants; and in the natural method ranking under the 47th order, *Stellatæ*. The calyx is small, quadridentate; the corolla monopetalous, long, and funnel shaped. The two seeds are naked, and crowned with the calyx. There are three species, viz. 1. *Arvensis*; 2. *Muralis*; 3. *Fruticosa*.

SHERBET, or SHERBIT, a compound drink, first brought into England from Turkey and Persia, consisting of water, lemon-juice, and sugar, in which are dis-

solved perfumed cakes made of excellent Damascus fruit, containing an infusion of some drops of rose water. Another kind of it is made of violets, honey, juice of raisins, &c.

SHERIDAN (Thomas), D. D. the intimate friend of Dean Swift, is said by Shield, in Cibber's "Lives of the Poets," to have been born about 1684, in the county of Cavan, where, according to the same authority, his parents lived in no very elevated state. They are described as being unable to afford their son the advantages of a liberal education; but he, being observed to give early indications of genius, attracted the notice of a friend to his family, who sent him to the college of Dublin, and contributed towards his support while he remained there. He afterwards entered into orders, and set up a school in Dublin, which long maintained a very high degree of reputation, as well for the attention bestowed on the morals of the scholars as for their proficiency in literature. So great was the estimation in which this seminary was held, that it is asserted to have produced in some years the sum of L. 1000. It does not appear that he had any considerable preferment; but his intimacy with Swift, in 1725, procured for him a living in the south of Ireland worth about L. 150 a-year, which he went to take possession of, and, by an act of inadvertence, destroyed all his future expectations of rising in the church; for being at Corke on the 1st of August, the anniversary of King George's birth-day, he preached a sermon, which had for its text, "Sufficient for the day is the evil thereof." On this being known, he was struck out of the list of chaplains to the lord lieutenant, and forbidden the castle.

This living Dr Sheridan afterwards changed for that of Dunboyne, which, by the knavery of the farmers, and power of the gentlemen in the neighbourhood, fell so low as L. 80 *per annum*. He gave it up for the free school of Cavan, where he might have lived well in so cheap a country on L. 80 a-year salary, besides his scholars; but the air being, as he said, too moist and unwholesome, and being disgusted with some persons who lived there, he sold the school for about L. 400; and having soon spent the money, he fell into bad health, and died Sept. 10. 1738, in his 55th year.

Lord Corke has given the following character of him: "Dr Sheridan was a school-master, and in many instances perfectly well adapted for that station. He was deeply versed in the Greek and Roman languages, and in their customs and antiquities. He had that kind of good nature which absence of mind, indolence of body, and carelessness of fortune, produce; and although not over strict in his own conduct, yet he took care of the morality of his scholars, whom he sent to the university remarkably well founded in all kinds of classical learning, and not ill instructed in the social duties of life. He was slovenly, indigent, and cheerful. He knew books much better than men; and he knew the value of money least of all. In this situation, and with this disposition, Swift fastened upon him as upon a prey with which he intended to regale himself whenever his appetite should prompt him." His Lordship then mentions the event of the unlucky sermon, and adds: "This ill-starred, good-natured, improvident man, returned to Dublin, unhinged from all favour at court, and even banished from the castle. But still he remained a punster, a quibbler, a fiddler, and a wit. Not a day

Sheridan,
Sheriff.

day passed without a rebus, an anagram, or a madrigal. His pen and his fiddlestick were in continual motion; and yet to little or no purpose, if we may give credit to the following verses, which shall serve as the conclusion of his poetical character:

" With music and poetry equally blest'd,
" A bard thus Apollo most humbly address'd;
" Great author of poetry, music, and light,
" Instructed by thee, I both fiddle and write;
" Yet unheeded I scrape, or I scribble all day,
" My tunes are neglected, my verse flung away.
" Thy substitute here, Vice-Apollo disdains
" To vouch for my numbers, or list to my strains.
" Thy manual sign he refuses to put
" To the airs I produce from the pen or the gut:
" Be thou then propitious, great Phœbus, and grant
" Relief, or reward, to my merit or want.
" Tho' the Dean and Delany transcendently shine,
" O! brighten one solo or sonnet of mine:
" Make one work immortal, 'tis all I request.
" Apollo look'd pleas'd, and resolving to jest,
" Replied—Honest friend, I've consider'd your case,
" Nor dislike your unmeaning and innocent face.
" Your petition I grant, the boon is not great,
" Your works shall continue, and here's the receipt,
" On rondeaus hereafter your fiddle-strings spend,
" Write verses in circles, they never shall end."

" One of the volumes of Swift's miscellanies consists almost entirely of letters between him and the Dean. He published a prose translation of Persius; to which he added the best notes of former editors, together with many judicious ones of his own. This work was printed at London, 1739, in 12mo. *Biographical Dictionary*.

SHERIDAN (Mrs Frances), wife to Thomas Sheridan, M. A. was born in Ireland about the year 1724, but descended from a good English family which had removed thither. Her maiden name was Chamberlaine, and she was grand-daughter of Sir Oliver Chamberlaine. The first literary performance by which she distinguished herself was a little pamphlet at the time of a violent party-dispute relative to the theatre, in which Mr Sheridan had newly embarked his fortune. So well-timed a work exciting the attention of Mr Sheridan, he by an accident discovered his fair patroness, to whom he was soon afterwards married. She was a person of the most amiable character in every relation of life, with the most engaging manners. After lingering some years in a very weak state of health, she died at Blois, in the south of France, in the year 1767. Her "Sydney Biddulph" may be ranked with the first productions of that class in ours or in any other language. She also wrote a little romance in one volume called *Nourjahad*, in which there is a great deal of imagination productive of an admirable moral. And she was the authoress of two comedies, "The Discovery" and "The Dupe."

Blackstone's
Commentaries, vol. i.
p. 339.

SHERIFF, an officer, in each county in England, nominated by the king, invested with a judicial and ministerial power, and who takes place of every nobleman in the county during the time of his office.

The sheriff is an officer of very great antiquity in this kingdom, his name being derived from two Saxon words, signifying the *reeve*, *bailiff*, or *officer* of the shire. He is called in Latin *vice-comes*, as being the deputy of the earl or *comes*, to whom the custody of

the shire is said to have been committed at the first division of this kingdom into counties. But the earls, in process of time, by reason of their high employments and attendance on the king's person, not being able to transact the business of the county, were delivered of that burden; reserving to themselves the honour, but the labour was laid on the sheriff. So that now the sheriff does all the king's business in the county; and tho' he be still called *vice-comes*, yet he is entirely independent of, and not subject to, the earl; the king, by his letters patent, committing *custodiam comitatus* to the sheriff, and to him alone.

Sheriffs were formerly chosen by the inhabitants of the several counties. In confirmation of which it was ordained, by statute 28 Edw. I. c. 8. that the people should have an election of sheriffs in every shire where the shrievalty is not of inheritance. For anciently in some counties the sheriffs were hereditary; as we apprehend they were in Scotland till the statute 20 Geo. II. c. 43; and still continue in the county of Westmoreland to this day; the city of London having also the inheritance of the shrievalty of Middlesex vested in their body by charter. The reason of these popular elections is assigned in the same statute, c. 13. "that the commons might choose such as would not be a burden to them." And herein appears plainly a strong trace of the democratical part of our constitution; in which form of government it is an indispensable requisite, that the people should choose their own magistrates. This election was in all probability not absolutely vested in the commons, but required the royal approbation. For in the Gothic constitution, the judges of their county-courts (which office is executed by the sheriff) were elected by the people, but confirmed by the king; and the form of their election was thus managed; the people, or *incole territorii*, chose twelve electors, and they nominated three persons, *ex quibus rex unum confirmabat*. But, with us in England, these popular elections, growing tumultuous, were put an end to by the statute 9 Edw. II. ft. 2. which enacted, that the sheriffs should from thenceforth be assigned by the chancellor, treasurer, and the judges; as being persons in whom the same trust might with confidence be reposed. By statutes 14 Edw. III. c. 7. 23 Hen. VI. c. 8. and 21 Hen. VIII. c. 20. the chancellor, treasurer, president of the king's council, chief justices, and chief baron, are to make this election; and that on the morrow of All Souls, in the exchequer. And the king's letters patent, appointing the new sheriffs, used commonly to bear date the sixth day of November. The statute of Cambridge, 12 Ric. II. c. 2. ordains, that the chancellor, treasurer, keeper of the privy seal, steward of the king's house, the king's chamberlain, clerk of the rolls, the justices of the one bench and the other, barons of the exchequer, and all other that shall be called to ordain, name, or make justices of the peace, sheriffs, and other officers of the king, shall be sworn to act indifferently, and to name no man that sueth to be put in office, but such only as they shall judge to be the best and most sufficient. And the custom now is (and has been at least ever since the time of Fortescue, who was chief justice and chancellor to Henry the sixth), that all the judges, together with the other great officers, meet in the exchequer chamber on the morrow of All Souls yearly, (which day is now altered to the morrow of

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Sheriff. of St Martin by the last act for abbreviating Michaelmas term), and then and there propose three persons to the king, who afterwards appoints one of them to be sheriff. This custom of the twelve judges proposing three persons seems borrowed from the Gothic constitution before-mentioned: with this difference, that among the Goths the 12 nominors were first elected by the people themselves. And this usage of ours, at its first introduction, there is reason to believe, was founded upon some statute, though not now to be found among our printed laws; first, because it is materially different from the direction of all the statutes before-mentioned; which it is hard to conceive that the judges would have countenanced by their concurrence, or that Fortescue would have inserted in his book, unless by the authority of some statute; and also, because a statute is expressly referred to in the record, which Sir Edward Coke tells us he transcribed from the council-book of 3d March, 34 Hen. VI. and which is in substance as follows. The king had of his own authority appointed a man sheriff of Lincolnshire, which office he refused to take upon him; whereupon the opinions of the judges were taken, what should be done in this behalf. And the two chief justices, Sir John Fortescue and Sir John Prisot, delivered the unanimous opinion of them all; "that the king did an error when he made a person sheriff that was not chosen and presented to him according to the statute; that the person refusing was liable to no fine for disobedience, as if he had been one of the three persons chosen according to the tenor of the statute; that they would advise the king to have recourse to the three persons that were chosen according to the statute, or that some other thrifty man be intrusted to occupy the office for this year; and that, the next year, to eschew such inconveniences, the order of the statute in this behalf made be observed." But, notwithstanding this unanimous resolution of all the judges of England, thus entered in the council-book, and the statute 34 and 35 Hen. VIII. c. 26. § 61. which expressly recognizes this to be the law of the land, some of our writers have affirmed, that the king, by his prerogative, may name whom he pleases to be sheriff, whether chosen by the judges or not. This is grounded on a very particular case in the fifth year of queen Elizabeth, when, by reason of the plague, there was no Michaelmas term kept at Westminster; so that the judges could not meet there *in crastino animarum* to nominate the sheriffs: whereupon the queen named them herself, without such previous assembly, appointing for the most part one of two remaining in the last year's list. And this case, thus circumstanced, is the only authority in our books for the making these extraordinary sheriffs. It is true, the reporter adds, that it was held that the queen by her prerogative might make a sheriff without the election of the judges, *non obstante aliquo statuto in contrarium*; but the doctrine of *non obstante*, which sets the prerogative above the laws, was effectually demolished by the bill of rights at the revolution, and abdicated Westminster-hall when king James abdicated the kingdom. However, it must be acknowledged, that the practice of occasionally naming what are called *pocket-sheriffs*, by the sole authority of the crown, hath uniformly continued to the reign of his present majesty; in which, it is believed, few (if any) instances have occurred.

Sheriffs, by virtue of several old statutes, are to con-

tinue in their office no longer than one year; and yet it hath been said that a sheriff may be appointed *durante bene placito*, or during the king's pleasure; and so is the form of the royal writ. Therefore, till a new sheriff be named, his office cannot be determined, unless by his own death, or the demise of the king; in which last case it was usual for the successor to send a new writ to the old sheriff; but now, by statute 1 Anne st. 1. c. 8. all officers appointed by the preceding king may hold their offices for six months after the king's demise, unless sooner displaced by the successor. We may farther observe, that by statute 1 Ric. II. c. 11. no man that has served the office of sheriff for one year can be compelled to serve the same again within three years after.

We shall find it is of the utmost importance to have the sheriff appointed according to law, when we consider his power and duty. These are either as a judge, as the keeper of the king's peace, as a ministerial officer of the superior courts of justice, or as the king's bailiff.

In his judicial capacity he is to hear and determine all causes of 40 shillings value and under, in his county-court: and he has also a judicial power in divers other civil cases. He is likewise to decide the elections of knights of the shire, (subject to the controul of the House of Commons), of coroners, and of verderors; to judge of the qualification of voters, and to return such as he shall determine to be duly elected.

As the keepers of the king's peace, both by common law and special commission, he is the first man in the county, and superior in rank to any nobleman therein, during his office. He may apprehend, and commit to prison, all persons who break the peace, or attempt to break it; and may bind any one in a recognizance to keep the king's peace. He may, and is bound, *ex officio*, to pursue and take all traitors, murderers, felons, and other misdoers, and commit them to gaol for safe custody. He is also to defend his county against any of the king's enemies when they come into the land; and for this purpose, as well as for keeping the peace and pursuing felons, he may command all the people of his county to attend him; which is called the *posse comitatus*, or power of the county; which summons, every person above 15 years old, and under the degree of a peer, is bound to attend upon warning, under pain of fine and imprisonment. But though the sheriff is thus the principal conservator of the peace in his county, yet, by the express directions of the great charter, he, together with the constable, coroner, and certain other officers of the king, are forbidden to hold any pleas of the crown, or, in other words, to try any criminal offence. For it would be highly unbecoming, that the executioners of justice should be also the judges; should impose, as well as levy, fines and amercements; should one day condemn a man to death, and personally execute him the next. Neither may he act as an ordinary justice of the peace during the time of his office; for this would be equally inconsistent, he being in many respects the servant of the justices.

In his ministerial capacity, the sheriff is bound to execute all process issuing from the king's courts of justice. In the commencement of civil causes, he is to serve the writ, to arrest, and to take bail; when the cause comes to trial, he must summon and return the jury; when it is determined, he must see the judgment of

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of the court carried into execution. In criminal matters, he also arrests and imprisons, he returns the jury, he has the custody of the delinquent, and he executes the sentence of the court, though it extend to death itself.

As the king's bailiff, it is his business to preserve the rights of the king within his bailiwick; for so his county is frequently called in the writs: a word introduced by the princes of the Norman line; in imitation of the French, whose territory is divided into bailiwicks, as that of England into counties. He must seize to the king's use all lands devolved to the crown by attainder or escheat; must levy all fines and forfeitures, must seize and keep all waifs, wrecks, estrays, and the like, unless they be granted to some subject; and must also collect the king's rents within his bailiwick, if commanded by process from the exchequer.

To execute these various offices, the sheriff has under him many inferior officers; an under-sheriff, bailiffs, and gaolers, who must neither buy, sell, nor farm their offices, on forfeiture of 500*l*.

The under-sheriff usually performs all the duties of the office; a very few only excepted, where the personal presence of the high-sheriff is necessary. But no under-sheriff shall abide in his office above one year; and if he does, by statute 23 Hen. VI. c. 8. he forfeits 200*l*. a very large penalty in those early days. And no under-sheriff or sheriff's officer shall practise as an attorney during the time he continues in such office: for this would be a great inlet to partiality and oppression. But these salutary regulations are shamefully evaded, by practising in the names of other attorneys, and putting in sham deputies by way of nominal under-sheriffs: by reason of which, says Dalton, the under-sheriffs and bailiffs do grow so cunning in their several places, that they are able to deceive, and it may well be feared that many of them do deceive, both the king, the high-sheriff, and the county.

SHERIFF, in Scotland. See LAW, Part iii. sect. 3.

SHERLOCK (William), a learned English divine in the 17th century, was born in 1641, and educated at Eaton school, where he distinguished himself by the vigour of his genius and his application to study. Thence he was removed to Cambridge, where he took his degrees. In 1669 he became rector of the parish of St George, Botolph-lane, in London; and in 1681 was collated to the prebend of Pancras, in the cathedral of St Paul's. He was likewise chosen master of the Temple, and had the rectory of Therfield in Hertfordshire. After the Revolution he was suspended from his preferment, for refusing the oaths to king William and queen Mary; but at last he took them, and publicly justified what he had done. In 1691 he was installed dean of St Paul's. His *Vindication of the Doctrine of the Trinity* engaged him in a warm controversy with Dr South and others. Bishop Burnet tells us, he was "a clear, a polite, and a strong writer; but apt to assume too much to himself, and to treat his adversaries with contempt." He died in 1707. His works are very numerous; among these are, 1. A Discourse concerning the Knowledge of Jesus Christ, against Dr Owen. 2. Several pieces against the Papists, the Socinians, and Dissenters. 3. A practical Treatise on Death, which is much admired. 4. A practical Discourse on Providence. 5. A practical Discourse on the future Judgment; and many other works.

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SHERLOCK (Dr Thomas), bishop of London, was the son of the preceding Dr William Sherlock, and was born in 1678. He was educated in Catharine-hall, Cambridge, where he took his degrees, and of which he became master: he was made master of the Temple very young, on the resignation of his father; and it is remarkable, that this mastership was held by father and son successively for more than 70 years. He was at the head of the opposition against Dr Hoadley bishop of Bangor; during which contest he published a great number of pieces. He attacked the famous Collins's "Grounds and Reasons of the Christian Religion," in a course of six sermons, preached at the Temple church, which he intitled "The Use and Intent of Prophecy in the several Ages of the World." In 1728, Dr Sherlock was promoted to the bishopric of Bangor; and was translated to Salisbury in 1734. In 1747 he refused the archbishopric of Canterbury, on account of his ill state of health; but recovering in a good degree, accepted the see of London the following year. On occasion of the earthquakes in 1750, he published an excellent Pastoral Letter to the clergy and inhabitants of London and Westminster: of which it is said there were printed in 4to, 5000; in 8vo, 20,000; and in 12mo, about 30,000; beside pirated editions, of which not less than 50,000 were supposed to have been sold. Under the weak state of body in which he lay for several years, he revised and published 4 vols of Sermons in 8vo, which are particularly admired for their ingenuity and elegance. He died in 1762, and by report worth 150,000*l*. "His learning," says Dr Nicholls, "was very extensive: God had given him a great and an understanding mind, a quick comprehension, and a solid judgment. These advantages of nature he improved by much industry and application. His skill in the civil and canon law was very considerable; to which he had added such a knowledge of the common law of England as few clergymen attain to. This it was that gave him that influence in all causes where the church was concerned; as knowing precisely what it had to claim from its constitutions and canons, and what from the common law of the land." Dr Nicholls then mentions his constant and exemplary piety, his warm and fervent zeal in preaching the duties and maintaining the doctrines of Christianity, and his large and diffusive munificence and charity; particularly by his having given large sums of money to the corporation of clergymen's sons, to several of the hospitals, and to the society for propagating the gospel in foreign parts: also his bequeathing to Catharine-hall in Cambridge, the place of his education, his valuable library of books, and his donations for the founding a librarian's place and a scholarship, to the amount of several thousand pounds.

SHERIFFE of Mecca, the title of the descendants of Mahomet by Hassan Ibn Ali. These are divided into several branches, of which the family of Ali Bunemi, consisting at least of three hundred individuals, enjoy the sole right to the throne of Mecca. The Ali Bunemi are, again, subdivided into two subordinate branches, Darii Sajid, and Darii Barkad; of whom sometimes the one, sometimes the other, have given sovereigns to Mecca and Medina, when these were separate states.

Not only is the Turkish Sultan indifferent about the order of succession in this family, but he seems even to

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Sherriffe. foment the dissensions which arise among them, and favours the strongest, merely that he may weaken them all. As the order of succession is not determinately fixed, and the sheriffes may all aspire alike to the sovereign power, this uncertainty of right, aided by the intrigues of the Turkish officers, occasions frequent revolutions. The grand sheriffe is seldom able to maintain himself on the throne; and it still seldomer happens that his reign is not disturbed by the revolt of his nearest relations. There have been instances of a nephew succeeding his uncle, an uncle succeeding his nephew; and sometimes of a person, from a remote branch, coming in the room of the reigning prince of the ancient house.

When Niebuhr was in Arabia, in 1763, the reigning Sheriffe Mesad had sitten fourteen years on the throne, and, during all that period, had been continually at war with the neighbouring Arabs, and with his own nearest relations sometimes. A few years before, the Pacha of Syria had deposed him, and raised his younger brother to the sovereign dignity in his stead. But after the departure of the caravan, Jasar, the new sheriffe, not being able to maintain himself on the throne, was obliged to resign the sovereignty again to Mesad. Achmet, the second brother of the sheriffe, who was much beloved by the Arabs, threatened to attack Mecca while Niebuhr was at Jidda. Our traveller was soon after informed of the termination of the quarrel, and of Achmet's return to Mecca, where he continued to live peaceably in a private character.

These examples show that the Mussulmans observe not the law which forbids them to bear arms against their holy places. An Egyptian Bey even presumed, a few years since, to plant some small cannons within the compass of the Kaba, upon a small tower, from which he fired over that sacred mansion, upon the palace of Sheriffe Mesad, with whom he was at variance.

The dominions of the sheriffe comprehend the cities of Mecca, Medina, Jambo, Taaif, Sadie, Ghunfude, Hali, and thirteen others less considerable, all situated in Hedjas. Near Taaif is the lofty mountain of Gazvan, which, according to Arabian authors, is covered with snow in the midst of summer. As these dominions are neither opulent nor extensive, the revenue of their sovereign cannot be considerable.

He finds a rich resource, however, in the imposts levied on pilgrims, and in the gratuities offered him by Mussulman monarchs. Every pilgrim pays a tax of from ten to an hundred crowns, in proportion to his ability. The Great Mogul remits annually sixty thousand roupes to the sheriffe, by an assignment upon the government of Surat. Indeed, since the English made themselves masters of this city, and the territory belonging to it, the Nabob of Surat has no longer been able to pay the sum. The sheriffe once demanded it of the

English, as the possessors of Surat; and, till they should satisfy him, forbade their captains to leave the port of Jidda. But the English disregarding this prohibition, the sheriffe complained to the Ottoman Porte, and they communicated his complaints to the English ambassador. He at the same time opened a negociation with the nominal Nabob, who resides in Surat. But these steps proved all fruitless: and the sovereign of Mecca seems not likely to be ever more benefited by the contribution from India.

The power of the sheriffe extends not to spiritual matters; these are entirely managed by the heads of the clergy, of different sects, who are resident at Mecca. Rigid Mussulmans, such as the Turks, are not very favourable in their sentiments of the sheriffes, but suspect their orthodoxy, and look upon them as secretly attached to the tolerant sect of the Zeidi.

SHETLAND, the name of certain islands belonging to Scotland, and lying to the northward of Orkney. There are many convincing proofs that these islands were very early inhabited by the Picts, or rather by those nations who were the original possessors of the Orkneys; and at the time of the total destruction of these nations, if any credit be due to tradition, their woods were entirely ruined (A). It is highly probable that the people in Shetland, as well as in the Orkneys, flourished under their own princes dependent upon the crown of Norway; yet this seems to have been rather through what they acquired by fishing and commerce, than by the cultivation of their lands. It may also be reasonably presumed, that they grew thinner of inhabitants after they were annexed to the crown of Scotland; and it is likely that they revived again, chiefly by the very great and extensive improvements which the Dutch made in the herring-fishery upon their coasts, and the trade that the crews of their buffes, then very numerous, carried on with the inhabitants, necessarily resulting from their want of provisions and other conveniences, which in those days could not be very considerable.

There are many reasons which may be assigned why these islands, though part of our dominions, have not hitherto been better known to us. They were commonly placed two degrees too far to the north in all the old maps, in order to make them agree with Ptolemy's description of Thule, which he asserted to be in the latitude of 63 degrees; which we find urged by Camden as a reason why Thule must be one of the Shetland isles, to which Speed also agrees, though from their being thus wrong placed he could not find room for them in his maps. Another, and that no light cause, was the many false, fabulous, and impertinent relations published concerning them (B), as if they were countries inhospitable and uninhabitable; and lastly, the indolence, or rather indifference, of the natives, who, contenting themselves

(A) The tradition is, that this was done by the Scots when they destroyed the Picts; but is more probably referred to the Norwegians rooting out the original possessors of Shetland.

(B) They represented the climate as intensely cold; the soil as composed of crags and quagmire, so barren as to be incapable of bearing corn; to supply which, the people, after drying fish-bones, powdered them, then kneaded and baked them for bread. The larger fish-bones were said to be all the fuel they had. Yet, in so dreary a country, and in such miserable circumstances, they were acknowledged to be very long-lived, cheerful, and contented.

Shetland. themselves with those necessities and conveniences procured by their intercourse with other nations, and conceiving themselves neglected by the mother country, have seldom troubled her with their applications.

There are few countries that have gone by more names than these islands; they were called in Islandic, *Hialtlandia*, from *hialt*, the "hilt of a sword;" this might be possibly corrupted into *Hetland*, *Hilund*, or *Hethland*, though some tell us this signifies a "high land." They have been likewise, and are still in some maps, called *Zetland* and *Zealand*, in reference, as has been supposed, to their situation. By the Danes, and by the natives, they are styled *Tealtaland*; and notwithstanding the oddness of the orthography, this differs very little, if at all, from their manner of pronouncing *Zetland*, out of which pronunciation grew the modern names of *Shetland* and *Shotland*.

The islands of *Shetland*, as we commonly call them, are well situated for trade. The nearest continent to them is Norway; the port of Bergen lying 44 leagues east, whereas they lie 46 leagues north north-east from Buchanefs; east north-east from Sanda, one of the Orkneys, about 16 or 18 leagues; six or seven leagues north-east from Fair Isle; 58 leagues east from the Ferroe isles; and at nearly the same distance north-east from Lewis. The southern promontory of the main land, called *Sumburgh Head*, lies in 59 degrees and 59 minutes of north latitude; and the northern extremity of Unst, the most remote of them all, in the latitude of 61 degrees 15 minutes. The meridian of London passes through this last island, which lies about 2 degrees 30 minutes west from Paris, and about 5 degrees 15 minutes east from the meridian of Cape Lizard. According to Gifford's "Historical Description of Zetland," the inhabited islands are 33, of which the principal is styled *Main Land*, and extends in length from north to south about 60 miles, and is in some places 20 broad, though in others not more than two.

It is impossible to speak with precision; but, according to the best computation which we have been able to form, the Shetland isles contain near three times as much land as the Orkneys: they are considered also as equal in size to the island of Madeira; and not inferior to the provinces of Utrecht, Zealand, and all the rest of the Dutch islands taken together; but of climate and soil they have not much to boast. The longest day in the island of Unst is 19 hours 15 minutes, and of consequence the shortest day 4 hours and 45 minutes. The spring is very late, the summer very short; the autumn also is of no long duration, dark, foggy, and rainy; the winter sets in about November, and lasts till April, and sometimes till May. They have frequently in that season storms of thunder, much rain, but little frost or snow. High winds are indeed very frequent and very troublesome, yet they seldom produce any terrible effects. The aurora borealis is as common here as in any of the northern countries. In the winter season the sea swells and rages in such a manner, that for five or six months their ports are inaccessible, and of course the people during that space have no correspondence with the rest of the world.

The soil in the interior part of the main land, for the most part, is mountainous, moorish, and boggy, yet not to such a degree as to render the country utterly impassable; for many of the roads here, and in some of

the northern isles, are as good as any other natural roads, and the people travel them frequently on all occasions. Near the coast there are sometimes for miles together flat pleasant spots, very fertile both in pasture and corn. The mountains produce large crops of very nutritive grass in the summer; and they cut considerable quantities of hay, with which they feed their cattle in the winter. They might with a little attention bring more of their country into cultivation: but the people are so much addicted to their fishery, and feel so little necessity of having recourse to this method for subsistence, that they are content, how strange soever that may seem to us, to let four parts in five of their land remain in a state of nature.

They want not considerable quantities of marle in different islands, though they use but little; hitherto there has been no chalk found; limestone and freestone there are in the southern parts of the main land in great quantities, and also in the neighbouring islands, particularly Fetlar; and considerable quantities of slate, very good in its kind. No mines have been hitherto wrought, though there are in many places visible appearances of several kinds of metal. Some solid pieces of silver, it is said, have been turned up by the plough. In some of the smaller isles there are strong appearances of iron; but, through the want of proper experiments being made, there is, in this respect at least, hitherto nothing certain. Their meadows are inclosed with dikes, and produce very good grass. The little corn they grow is chiefly barley, with some oats; though even in the northern extremity of Unst the little land which they have is remarkable for its fertility. The hills abound with medicinal herbs; and their kitchen-gardens thrive as well, and produce as good greens and roots, as any in Britain. Of late years, and since this has been attended to, some gentlemen have had even greater success than they expected in the cultivating of tulips, roses, and many other flowers. They have no trees, and hardly any shrubs except juniper, yet they have a tradition that their country was formerly overgrown with woods; and it seems to be a confirmation of this, that the roots of timber-trees have been, and are still, dug up at a great depth; and that in some, and those too inaccessible, places, the mountain ash is still found growing wild. That this defect, viz. the want of wood at present, does not arise entirely from the soil or climate, appears from several late experiments; some gentlemen having raised ash, maple, horse-chestnuts, &c. in their gardens. Though the inhabitants are without either wood or coals, they are very well supplied with fuel, having great plenty of heath and peat. The black cattle in this country are in general of a larger sort than in Orkney, which is owing to their having more extensive pastures; a clear proof that still farther improvements might be made in respect to size. Their horses are small, but strong, stout, and well shaped, live very hardy, and to a great age. They have likewise a breed of small swine, the flesh of which, when fat, is esteemed very delicious. They have no goats, hares, or foxes; and in general no wild or venomous creatures of any kind except rats in some few islands. They have no moor-fowl, which is the more remarkable, as there are everywhere immense quantities of heath; but there are many sorts of wild and water fowl, particularly the dunter-goose, clack-goose, solan-goose, swans, ducks,

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ducks, teal, whaps, foists, lyres, kittiwaiks, maws, plovers, cormorants, &c. There is likewise the ember-goose, which is said to hatch her egg under her wing. Eagles and hawks, as also ravens, crows, mews, &c. abound here.

All these islands are well watered; for there are everywhere excellent springs, some of them mineral and medicinal. They have indeed no rivers; but many pleasant rills or rivulets, which they call *burns*, of different sizes; in some of the largest they have admirable trouts, some of which are of 15 and even of 20 pounds weight. They have likewise many fresh-water lakes, well stored with trout and eels, and in most of them there are also large and fine flounders; in some very excellent cod. These fresh-water lakes, if the country was better peopled, and the common people more at their ease, are certainly capable of great improvements. The sea-coasts of the main land of Shetland, in a straight line, are 55 leagues; and therefore there cannot be a country conceived more proper for establishing an extensive fishery. What the inhabitants have been hitherto able to do, their natural advantages considered, does not deserve that name, notwithstanding they export large quantities of cod, tusk, ling, and skate, inasmuch that the bounty allowed by acts of parliament amounts from L. 1400 to L. 2000 annually. They have, besides, haddocks, whittings, turbot, and a variety of other fish. In many of the inlets there are prodigious quantities of excellent oysters, lobsters, muscles, cockles, and other shell-fish. As to amphibious creatures, they have multitudes of otters and seals; add to these, that amber, ambergris, and other spoils of the ocean, are frequently found upon the coasts.

The inhabitants are a stout, well-made, comely people; the lower sort of a swarthy complexion. The gentry are allowed, by all who have conversed with them, to be most of them polite, shrewd, sensible, lively, active, and intelligent persons; and these, to the number of 100 families, have very handsome, strong, well-built houses, neatly furnished; their tables well served, polished in their manners, and exceedingly hospitable and civil to strangers. Those of an inferior rank are a hardy, robust, and laborious people, who, generally speaking, get their bread by fishing in all weathers in their yawls, which are little bigger than Gravesend wherries; live hardily, and in the summer season mostly on fish; their drink, which, in reference to the British dominions, is peculiar to the country, is called *bland*, and is a sort of butter-milk, long kept, and very sour. Many live to great ages, though not so long as in former times. In respect, however, to the bulk of the inhabitants, from the poorness of living, from the nature of it, and from the drinking great quantities of corn-spirits of the very worst sort, multitudes are afflicted with an inveterate scurvy; from which those in better circumstances are entirely free, and enjoy as good health as in any other country in Europe. As they have no great turn to agriculture, and are persuaded that their country is not fit for it, they do not (though probably they might) raise corn enough to support them for more than two-thirds of the year. But they are much more successful in their pasture-grounds, which are kept well inclosed, in good order, and, together with their commons, supply them plentifully with beef and mutton. They pay their

rents generally in butter at Lammas, and in money at Martinmas. As to manufactures, they make a strong coarse cloth for their own use, as also linen. They make likewise of their own wool very fine stockings. They export, besides the different kinds of fish already mentioned, some herrings, a considerable quantity of butter and train-oil, otter and seal skins, and no inconsiderable quantity of the fine stockings just mentioned. Their chief trade is to Leith, London, Hamburg, Spain, and to the Straits. They import timbers, deals, and some of their best oats, from Norway; corn and flour from the Orkneys, and from North Britain; spirits and some other things from Hamburg; cloths and better sort of linen from Leith; grocery, household furniture, and other necessaries, from London. The superior duties to the earl of Morton are generally let in farm; and are paid by the people in butter, oil, and money. The remains of the old Norwegian constitution are still visible in the division of their lands; and they have some udalmen or freeholders amongst them. But the Scots laws, customs, manners, dress, and language, prevail; and they have a sheriff, and other magistrates for the administration of justice, as well as a customhouse, with a proper number of officers. In reference to their ecclesiastical concerns, they have a presbytery, 12 ministers, and an itinerant for Foula, Fair Island, and the Skerries. Each of these ministers has a stipend of between 40 and 50 pounds, besides a house and a glebe free from taxes. The number of souls in these islands may be about 20,000.

SHEW-BREAD, the loaves of bread which the priest of the week put every Sabbath-day upon the golden-table in the sanctuary, before the Lord, in the temple of the Jews. They were twelve in number, and were offered to God in the name of the twelve tribes of Israel. They were shaped like a brick, were ten palms long and five broad, weighing about eight pounds each. They were unleavened, and made of fine flour by the Levites. The priests set them on the table in two rows, six in a row, and put frankincense upon them to preserve them from moulding. They were changed every Sabbath, and the old ones belonged to the priest upon duty. Of this bread none but the priests might eat, except in cases of necessity. It was called the *bread of faces*, because the table of the shew-bread, being almost over-against the ark of the covenant, the loaves might be said to be set before the face of God. The original table was carried away to Babylon, but a new one was made for the second temple. It was of wood overlaid with gold. This, with the candlestick and some other spoils, was carried by Titus to Rome.

SHIELD, an ancient weapon of defence, in form of a light buckler, borne on the arm to fend off lances, darts, &c. The form of the shield is represented by the escutcheon in coats of arms. The shield was that part of the ancient armour on which the persons of distinction in the field of battle always had their arms painted; and most of the words used at this time to express the space that holds the arms of families are derived from the Latin name for a shield, *scutum*. The French *escu* and *escussion*, and the English word *escutcheon*, or, as we commonly speak it, *scutcheon*, are evidently from this origin; and the Italian *scudo* signifies both the shield of arms and that used in war. The Latin name *clypeus*, for the same thing, seems also to be derived from the

Shew
bread,
shield.

Shield. the Greek word *σχιον*, to engrave; and it had this name from the several figures engraved on it, as marks of distinction of the person who wore it.

The shield in war, among the Greeks and Romans, was not only useful in the defence of the body, but it was also a token, or badge of honour, to the wearer; and he who returned from battle without it was always treated with infamy afterwards. People have at all times thought this honourable piece of the armour the properest place to engrave, or figure on the signs of dignity of the possessor of it; and hence, when arms came to be painted for families in aftertimes, the heralds always chose to represent them upon the figure of a shield, but with several exterior additions and ornaments; as the helmet, supporters, and the rest.

The form of the shield has not only been found different in various nations, but even the people of the same nation, at different times, have varied its form extremely; and among several people there have been shields of several forms and sizes in use, at the same period of time, and suited to different occasions. The most ancient and universal form of shields, in the earlier ages, seems to have been the triangular. This we see instances of in all the monuments and gems of antiquity: our own most early monuments show it to have been the most antique shape also with us, and the heralds have found it the most convenient for their purposes, when they had any odd number of figures to represent; as if three, then two in the broad bottom part, and one in the narrow upper end, it held them very well; or if five, they stood as conveniently, as three below, and two above. The other form of a shield, now universally used, is square, rounded, and pointed at the bottom: this is taken from the figure of the Samnitic shield used by the Romans, and since copied very generally by the English, French, and Germans.

The Spaniards and Portuguese have the like general form of shields, but they are round at the bottom without the point; and the Germans, beside the Samnite-shield, have two others pretty much in use: these are, 1. The bulging shield, distinguished by its swelling or bulging out at the flanks; and, 2. The indented shield, or shield chancree, which has a number of notches and indentings all round its sides. The use of the ancient shield of this form was, that the notches served to rest the lance upon, that it might be firm while it gave the thrust; but this form being less proper for the receiving armorial figures, the two former have been much more used in the heraldry of that nation.

Beside this different form of the shields in heraldry, we find them also often distinguished by their different positions, some of them standing erect, and others slanting various ways, and in different degrees; this the heralds express by the word *pendant*, "hanging," they seeming to be hung up not by the centre, but by the right or left corner. The French call these *ecu pendant*, and the common antique triangular ones *ecu ancien*. The Italians call this *scuto pendente*; and the reason given for exhibiting the shield in these figures in heraldry is, that in the ancient tilts and tournaments, they who were to fight at these military exercises, were obliged to hang up their shields with their armories, or coats of arms on them, out at the windows and balconies of the houses near the place; or upon trees, pavilions, or the barriers of the

ground, if the exercise was to be performed in the field.

Those who were to fight on foot, according to Colubier, had their shields hung up by the right corner, and those who were to fight on horseback had theirs hung up by the left. This position of the shields in heraldry is called *couché* by some writers, though by the generality *pendant*.

It was very frequent in all parts of Europe, in arms given between the 11th and 14th centuries; but it is to be observed, that the hanging by the left corner, as it was the token of the owner's being to fight on horseback, so it was esteemed the most honourable and noble situation; and all the pendant shields of the sons of the royal family of Scotland and England, and of our nobility at that time, are thus hanging from the left corner. The hanging from this corner was a token of the owner's being of noble birth, and having fought in the tournaments before; but no sovereign ever had a shield pendant any way, but always erect, as they never formally entered the lists of the tournament.

The Italians generally have their shields of arms of an oval form; this seems to be done in imitation of those of the popes and other dignified clergy; but their herald Petro Saneto seems to regret the use of this figure of the shield, as an innovation brought in by the painters and engravers as most convenient for holding the figures, but derogatory to the honour of the possessor, as not representing either antiquity or honours won in war, but rather the honours of some citizen or person of learning. Some have carried it so far as to say, that those who either have no ancient title to nobility, or have sullied it by any unworthy action, cannot any longer wear their arms in shields properly figured, but were obliged to have them painted in an oval or round shield.

In Flanders, where this author lived, the round and oval shields are in the disrepute he speaks of; but in Italy, beside the popes and dignified prelates, many of the first families of the laity have them.

The secular princes, in many other countries, also retain this form of the shield, as the most ancient and truly expressive of the Roman clypeus.

SHIELD, in heraldry, the escutcheon or field on which the bearings of coats of arms are placed. See **HERALDRY**. **SHIELDRAKE**, in ornithology. See **ANAS**.

SHIELDS, North and South, two sea-port towns, the one north of the Tyne in Northumberland, the other on the south of the Tyne in the county of Durham. South Shields contains above 200 salt-pans, and on both banks of the river are many convenient houses for the entertainment of seamen and colliers, most of the Newcastle coal-fleet having their station here usually till their coals are brought down in the barges and lighters from Newcastle. A very large Roman altar, of one entire stone, was found some years ago near this place, and put into the hands of the learned Dr Lister, who, in his account of it sent to the Royal Society, says it was erected to Marcus Aurelius Antoninus Caracalla, when he took upon him the command of the empire and the whole army (after his father's death at York), for his safe return from his successful expedition against the Scots and Picts. W. Long. 1. 12. N. Lat. 55. 44.

SHIFTERS,

Shield
||
Shields.

Shifters
||
Shilling.

SHIFTERS, on board a man of war, certain men who are employed by the cooks to shift and change the water in which the flesh or fish is put, and laid for some time, in order to fit it for the kettle.

SHIFTING A TACKLE, in sea-language, the act of removing the blocks of a tackle to a greater distance from each other, on the object to which they are applied, in order to give a greater scope or extent to their purchase. This operation is otherwise called *fleeting*. Shifting the helm denotes the alteration of its position, by pushing it towards the opposite side of the ship. Shifting the voyal, signifies changing its position on the capstern, from the right to the left, and *vice versa*.

SHILLING, an English silver coin, equal to twelve pence, or the twentieth part of a pound.

Freherus derives the Saxon *scilling*, whence our shilling, from a corruption of *siliqua*; proving the derivation by several texts of law, and, among others, by the 26th law, *De annuis legatis*. Skinner deduces it from the Saxon *scild* "shield," by reason of the escutcheon of arms thereon.

Bishop Hooper derives it from the Arabic *sheckle*, signifying a weight; but others, with greater probability, deduce it from the Latin *scilicet*, which signified in that language a quarter of an ounce, or the 48th part of a Roman pound. In confirmation of this etymology it is alleged, that the shilling kept its original signification, and bore the same proportion to the Saxon pound as *scilicet* did to the Roman and the Greek, being exactly the 48th part of the Saxon pound; a discovery which we owe to Mr Lambarde*.

* *Explicatio
Rerum et
Verborum in
Leg. Sax.
vss. Libra.*

However, the Saxon laws reckon the pound in the round number at 50 shillings, but they really coined out of it only 48; the value of the shilling was five-pence; but it was reduced to fourpence above a century before the conquest; for several of the Saxon laws, made in Athelstan's reign, oblige us to take this estimate. Thus it continued to the Norman times, as one of the Conqueror's laws sufficiently ascertains; and it seems to have been the common coin by which the English payments were adjusted. After the conquest, the French *solidus* of twelvepence, which was in use among the Normans, was called by the English name of shilling; and the Saxon shilling of fourpence took a Norman name, and was called the *groat*, or great coin, because it was the largest English coin then known in England.

It has been the opinion of the bishops Fleetwood and Gibson, and of the antiquaries in general, that, though the method of reckoning by pounds, marks, and shillings, as well as by pence and farthings, had been in constant use even from the Saxon times, long before the Norman conquest, there never was such a coin in England as either a pound or a mark, nor any shilling, till the year 1504 or 1505, when a few silver shillings or twelve-pences were coined, which have long since been solely confined to the cabinets of collectors.

Mr Clarke combats this opinion, alleging that some coins mentioned by Mr Folkes, under Edward I. were probably Saxon shillings new minted, and that archbishop Aelfric expressly says†, that the Saxons had three names for their money, viz. mancuses, shillings, and pennies. He also urges the different value of the Saxon shilling at different times, and its uniform proportion to the pound, as an argument that their shil-

† *Gram.
Saxon,
p. 52.*

ling was a coin; and the testimony of the Saxon glosses, in which the word we have translated *pieces of silver* is rendered *shillings*, which, he says, they would hardly have done, if there had been no such coin as a shilling then in use. Accordingly the Saxons expressed their shilling in Latin by *scelus* and *argenteus*. He farther adds, that the Saxon shilling was never expressed by *solidus* till after the Norman settlements in England; and howsoever it altered during the long period that elapsed from the conquest to the time of Henry VII. it was the most constant denomination of money in all payments, though it was then only a species of account, or the twentieth part of the pound Sterling: and when it was again revived as a coin, it lessened gradually as the pound Sterling lessened, from the 28th of Edward III. to the 43d of Elizabeth.

In the year 1560 there was a peculiar sort of shilling struck in Ireland, of the value of ninepence English, which passed in Ireland for twelvepence. The motto on the reverse was, *posui Deum adiutorem meum*. Eighty-two of these shillings, according to Malynes, went to the pound; they therefore weighed 20 grains, one-fourth each, which is somewhat heavier in proportion than the English shilling of that time, 62 whereof went to the pound, each weighing 92 grains seven-eighths; and the Irish shilling being valued at the Tower at ninepence English, that is, one-fourth part less than the English shilling, it should therefore proportionably weigh one-fourth part less, and its full weight be somewhat more than 62 grains; but some of them found at this time, though much worn, weighed 69 grains. In the year 1598, five different pieces of money of this kind were struck in England for the service of the kingdom of Ireland. These were shillings to be current in Ireland at twelvepence each; half shillings to be current at sixpence, and quarter shillings at threepence. Pennies and halfpennies were also struck of the same kind, and sent over for the payment of the army in Ireland. The money thus coined was of a very base mixture of copper and silver; and two years after there were more pieces of the same kinds struck for the same service, which were still worse; the former being three ounces of silver to nine ounces of copper; and these latter only two ounces eighteen pennyweights to nine ounces two pennyweights of the alloy.

The Dutch, Flemish, and Germans, have likewise their shilling, called *schelin*, *schilling*, *scalin*, &c. but these not being of the same weight or fineness with the English shilling, are not current at the same value. The English shilling is worth about 23 French sols; those of Holland and Germany about 11 sols and an half; those of Flanders about nine. The Dutch shillings are also called *sols de gros*, because equal to twelve gros. The Danes have copper shillings worth about one-fourth of a farthing Sterling.

SHILOH is a term famous among interpreters and commentators upon Scripture. It is found (Gen. xlix. 10.) to denote the Messiah. The patriarch Jacob foretels his coming in these words; "The sceptre shall not depart from Judah, nor a lawgiver from between his feet, until Shiloh come; and unto him shall the gathering of the people be." The Hebrew text reads, *עד כי יבא שלח* until Shiloh come. All Christian commentators agree, that this word ought to be understood of the Messiah, or Jesus Christ; but all are not agreed about

Shilling,
Shiloh.

Shiloh. about its literal and grammatical signification. St Jerome, who translates it by *Qui mittendus est*, manifestly reads *Shiloh* "sent," instead of *Shiloh*. The Septuagint have it *Εως αν ελθη τα αποκειμενα αυτω; or, Εως αν ελθη ο αποκειται,* (as if they had read *שיל* instead of *שילה*), i. e. "Until the coming of him to whom it is reserved;" or, "Till we see arrive that which is reserved for him."

It must be owned, that the signification of the Hebrew word *Shiloh* is not well known. Some translate, "the sceptre shall not depart from Judah, till he comes to whom it belongs;" *שילה* or *שיל* instead of *שילון*. Others, "till the coming of the peace-maker;" or, "the pacific;" or, "of prosperity," *שילה* *prosperatus est*. *Shalab* signifies, "to be in peace, to be in prosperity;" others, "till the birth of him who shall be born of a woman that shall conceive without the knowledge of a man," *שילה* or *שילב* *secundina, fluxus*†; otherwise, "the sceptre shall not depart from Judah, till its end, its ruin; till the downfall of the kingdom of the Jews," *שילה* or *שילה* *it has ceased, it has finished*‡. Some Rabbins have taken the name *Siloh* or *Shiloh*, as if it signified the city of this name in Palestine: "The sceptre shall not be taken away from Judah till it comes to Shiloh; till it shall be taken from him to be given to Saul at Shiloh." But in what part of Scripture is it said, that Saul was acknowledged as king or consecrated at Shiloh? If we would understand it of Jeroboam the son of Nebat, the matter is still as uncertain. The Scripture mentions no assembly at Shiloh that admitted him as king. A more modern author derives *Shiloh* from *שילה*, *fatigare*, which sometimes signifies *to be weary, to suffer*; "till his labours, his sufferings, his passion, shall happen."

† Arab. Lud de Dieu.

‡ Le Clerc in Genes.

But not to amuse ourselves about seeking out the grammatical signification of *Shiloh*, it is sufficient for us to show, that the ancient Jews are in this matter agreed with the Christians: they acknowledge, that this word stands for the *Messiah the King*. It is thus that the paraphrasts Onkelos and Jonathan, that the ancient Hebrew commentaries upon Genesis, and that the Talmudists themselves, explain it. If Jesus Christ and his apostles did not make use of this passage to prove the coming of the Messiah, it was because then the completion of this prophecy was not sufficiently manifest. The sceptre still continued among the Jews; they had still kings of their own nation in the persons of the Herods; but soon after the sceptre was entirely taken away from them, and has never been restored to them since.

The conceited Jews seek in vain to put forced meanings upon this prophecy of Jacob; saying, for example, that the sceptre intimates the dominion of strangers, to which they have been in subjection, or the hope of seeing one day the sceptre or supreme power settled again among themselves. It is easy to perceive, that all this is contrived to deliver themselves out of perplexity. In vain likewise they take refuge in certain princes of the captivity, whom they pretend to have subsisted beyond the Euphrates, exercising an authority over their nation little differing from absolute, and being of the race of David. This pretended succession of princes is perfectly chimerical; and though at certain times they could show a succession, it continued but a short time, and their authority was too obscure, and too much limited, to be the object of a prophecy so remarkable as this was.

SHINGLES, in building, small pieces of wood, or quartered oaken boards, sawn to a certain scantling, or, as is more usual, cleft to about an inch thick at one end, and made like wedges, four or five inches broad, and eight or nine inches long.

Shingles are used instead of tiles or slates, especially for churches and steeples; however, this covering is dear; yet, where tiles are very scarce, and a light covering is required, it is preferable to thatch; and where they are made of good oak, cleft, and not sawed, and well seasoned in water and the sun, they make a sure, light, and durable covering.

The building is first to be covered all over with boards, and the shingles nailed upon them.

SHIP, a general name for all large vessels, particularly those equipped with three masts and a bowsprit; the masts being composed of a lowermast, topmast, and top-gallant-mast: each of these being provided with yards, sails, &c. Ships, in general, are either employed for war or merchandize.

SHIPS of War are vessels properly equipped with artillery, ammunition, and all the necessary martial weapons and instruments for attack or defence. They are distinguished from each other by their several ranks or classes, called *rates*, as follows: Ships of the first rate mount from 100 guns to 110 guns and upwards; second rate, from 90 to 98 guns; third rate, from 64 to 74 guns; fourth rate, from 50 to 60 guns; fifth rate, from 32 to 44 guns; and sixth rates, from 20 to 28 guns. See the article *RATE*. Vessels carrying less than 20 guns are denominated *sloops, cutters, fire-ships, and bombs*. It has lately been proposed to reduce the number of these rates, which would be a saving to the nation, and also productive of several material advantages.

In Plate CCCCL. is the representation of a first rate, with rigging, &c. the several parts of which are as follow:

Parts of the hull.—A, The cathead; B, The fore-chain-wales, or chains; C, The main-chains; D, The mizen-chains; E, The entering port; F, The hawse-holes; G, The poop-lanterns; H, The ches-tree; I, The head; K, The stern.

1, The bowsprit. 2, Yard and sail. 3, Gammoning. 4, Manrop. 5, Bobstay. 6, Spritsail-sheets. 7, Pendants. 8, Braces and pendants. 9, Halliards. 10, Lifts. 11, Clue-lines. 12, Spritsail-horses. 13, Buntlines. 14, Standing lifts. 15, Bowsprit-shroud. 16, Jib-boom. 17, Jibstay and sail. 18, Halliards. 19, Sheets. 20, Horses. 21, Jib-guy. 22, Spritsail-top-sail yard. 23, Horses. 24, Sheets. 25, Lifts. 26, Braces and pendants. 27, Cap of bowsprit. 28, Jack-staff. 29, Truck. 30, Jack flag.—31, Foremast. 32, Runner and tackle. 33, Shrouds. 34, Laniards. 35, Stay and laniard. 36, Preventer-stay and laniard. 37, Woolding of the mast. 38, Fore-yard and sail. 39, Horses. 40, Top. 41, Crowfoot. 42, Jeers. 43, Yard-tackles. 44, Lifts. 45, Braces and pendants. 46, Sheets. 47, Foretacks. 48, Bows-lines and bridles. 49, Fore bunt-lines. 50, Fore leech-lines. 51, Preventer-brace. 52, Futtock-shrouds.—53, Foretop-mast. 54, Shrouds and laniards. 55, Foretop-sail yard and sail. 56, Stay and sail. 57, Runner. 58, Back-stays. 59, Halliards. 60, Lifts. 61, Braces and pendants. 62, Horses. 63, Clew-lines. 64, Bows-lines and bridles. 65, Reef-tackles. 66, Sheets. 67, Buntlines.

ship. Bunt-lines. 68, Cross trees. 69, Cap. 70, Foretop-gallant-mast. 71, Shrouds. 72, Yard and sail. 73, Backstays. 74, Stay. 75, Lifts. 76, Clew-lines. 77, Braces and pendants. 78, Bowlines and bridles. 79, Flag-staff. 80, Truck. 81, Flag-stay-staff. 82, Flag of the lord high admiral.—83, *Mainmast*. 84, Shrouds. 85, Laniards. 86, Runner and tackle. 87, Futtock-shrouds. 88, Top-lantern. 89, Crank of ditto. 90, Stay. 91, Preventer stay. 92, Stay-tackles. 93, Wooding of the mast. 94, Jeers. 95, Yard-tackles. 96, Lifts. 97, Braces and pendants. 98, Horses. 99, Sheets. 100, Tacks. 101, Bowlines and bridles. 102, Crow-foot. 103, Cap. 104, Top. 105, Bunt-line. 106, Leech-lines. 107, Yard and sail.—108, *Main-topmast*. 109, Shrouds and laniards. 110, Yard and sail. 111, Futtock shrouds. 112, Backstays. 113, Stay. 114, Stay-sail and halliards. 115, Tye. 116, Halliards. 117, Lifts. 118, Clew-lines. 119, Braces and pendants. 120, Horses. 121, Sheets. 122, Bowlines and bridles. 123, Buntlines. 124, Reef-tackles. 125, Cross-trees. 126, Cap.—127, *Main-top-gallant-mast*. 128, Shrouds and laniards. 129, Yard and sail. 130, Backstays. 131, Stay. 132, Stay-sail and halliards. 133, Lifts. 134, Braces and pendants. 135, Bowlines and bridles. 136, Clew-lines. 137, Flag-staff. 138, Truck. 139, Flag-staff-stay. 140, Flag standard.—141, *Mizen-mast*. 142, Shrouds and laniards. 143, Cap. 144, Yard and sail. 145, Block for signal halliards. 146, Sheet. 147, Pendant lines. 148, Peck-brails. 149, Stay-sail. 150, Stay. 151, Derrick and span. 152, Top. 153, Cross-jack-yard. 154, Cross-jack lifts. 155, Cross-jack braces. 156, Cross-jack slings.—157, *Mizen-top-mast*. 158, Shrouds and laniards. 159, Yard and sail. 160, Backstays. 161, Stay. 162, Halliards. 163, Lifts. 164, Braces and pendants. 165, Bowlines and bridles. 166, Sheets. 167, Clew-lines. 168, Stay-sail. 169, Cross-trees. 170, Cap. 171, Flag-staff. 172, Flag-staff-stay. 173, Truck. 174, Flag-union. 175, Ensign-staff. 176, Truck. 177, Ensign. 178, Stern ladder. 179, Bower cable.

Fig. 2. Plate CCCCLI. is a vertical longitudinal section of a first rate ship of war, with references to the principal parts; which are as follow:

A, Is the head, containing,—1, The stem; 2, The knee of the head or cutwater; 3, The lower and upper cheek; 4, The trail-board; 5, The figure; 6, The gratings; 7, The brackets; 8, The false stem; 9, The breast hooks; 10, The hause holes; 11, The bulkhead forward; 12, The cat-head; 13, The cat-hook; 14, Necessary seats; 15, The manger within board; 16, The bowsprit.

B, Upon the forecastle—17, The gratings; 18, The partners of the mast; 19, The gunwale; 20, The bel-fry; 21, The funnel for smoke; 22, The gangway going off the forecastle; 23, The forecastle guns.

C, In the forecastle—24, The door of the bulkhead forward; 25, Officers cabins; 26, Staircase; 27, Fore-top-sail sheet bits; 28, The beams; 29, The carlings.

D, The middle gundeck forward—30, The fore-jeer bits; 31, The oven and furnace of copper; 32, The captain's cook room; 33, The ladder or way to the forecastle.

E, The lower gun-deck forward—34, The knees fore and aft; 35, The spirketings, or the first streak next

to each deck, the next under the beams being called *Ship* clamps; 36, The beams of the middle gun-deck fore and aft; 37, The carlings of the middle gun-deck fore and aft; 38, The fore-bits; 39, The after or main bits; 40, The hatchway to the gunner's and boatswain's store-rooms; 41, The jeer capstan.

F, The orlop—42, 43, 44, The gunner's, boatswain's, and carpenter's store-rooms; 45, The beams of the lower gun-deck; 46, 47, The pillars and the riders, fore and aft; 48, The bulkhead of the store-rooms.

G, The hold—49, 50, 51, The foot-hook rider, the floor rider, and the standard, fore and aft; 52, The pillars; 53, The step of the foremast; 54, The kelson, or false keel, and dead rising; 55, The dead-wood.

H, At midships in the hold—56, The floor-timbers; 57, The keel; 58, The well; 59, The chain-pump; 60, The step of the mainmast; 61, 62, Beams and carlings of the orlop, fore and aft.

I, The orlop amidships—63, The cable tire; 64, The main hatchway.

K, The lower gun-deck amidships—65, The ladder leading up to the middle gun-deck; 66, The lower tire of ports.

L, The middle gun-deck amidship—67, The middle tire of ports; 68, The entering port; 69, The main jeer bits; 70, Twisted pillars or stanchions; 71, The capstan; 72, Gratings; 73, The ladder leading to the upper deck.

M, The upper gun-deck amidships—74, The maintop-sail-sheet bits; 75, The upper partners of the mainmast; 76, The gallows on which spare-topmasts &c. are laid; 77, The foresheet blocks; 78, The rennets; 79, The gunwale; 80, The upper gratings; 81, The drift brackets; 82, The pifs dale; 83, The capstan pall.

N, Abaft the mainmast—84, The gangway off the quarterdeck; 85, The bulkhead of the coach; 86, The staircase down to the middle gun-deck; 87, The beams of the upper deck; 88, The gratings about the mainmast; 89, The coach or council-chamber; 90, The staircase up to the quarterdeck.

O, The quarterdeck—91, The beams; 92, The carlings; 93, The partners of the mizenmast; 94, The gangway up to the poop; 95, The bulkhead of the cuddy.

P, The poop—96, The trumpeter's cabin; 97, The tafforel.

Q, The captain's cabin.

R, The cuddy, usually divided for the master and secretary's officers.

S, The state-room, out of which is made the bed-chamber and other conveniences for the commander in chief; 98, The entrance into the gallery; 99, The bulkhead of the great cabin; 100, The stern lights and after galleries.

T, The ward-room, allotted for the lieutenants and marine officers: 101, The lower gallery; 102, The steerage and bulkhead of the wardroom; 103, The whip-staff, commanding the tiller; 104, The after staircase leading down to the lower gun-deck.

V, Several officers cabins abaft the mainmast, where the soldiers generally keep guard.

W, The gun-room—105, The tiller commanding the rudder; 106, The rudder; 107, The stern-post; 108, The tiller-transom; 109, The several transoms, viz. 1, 2, 3, 4, 5; 110, The gun-room ports, or stern-chase;

Fig. 3.

SHIP.

Fig. 4.

Fig. 5.

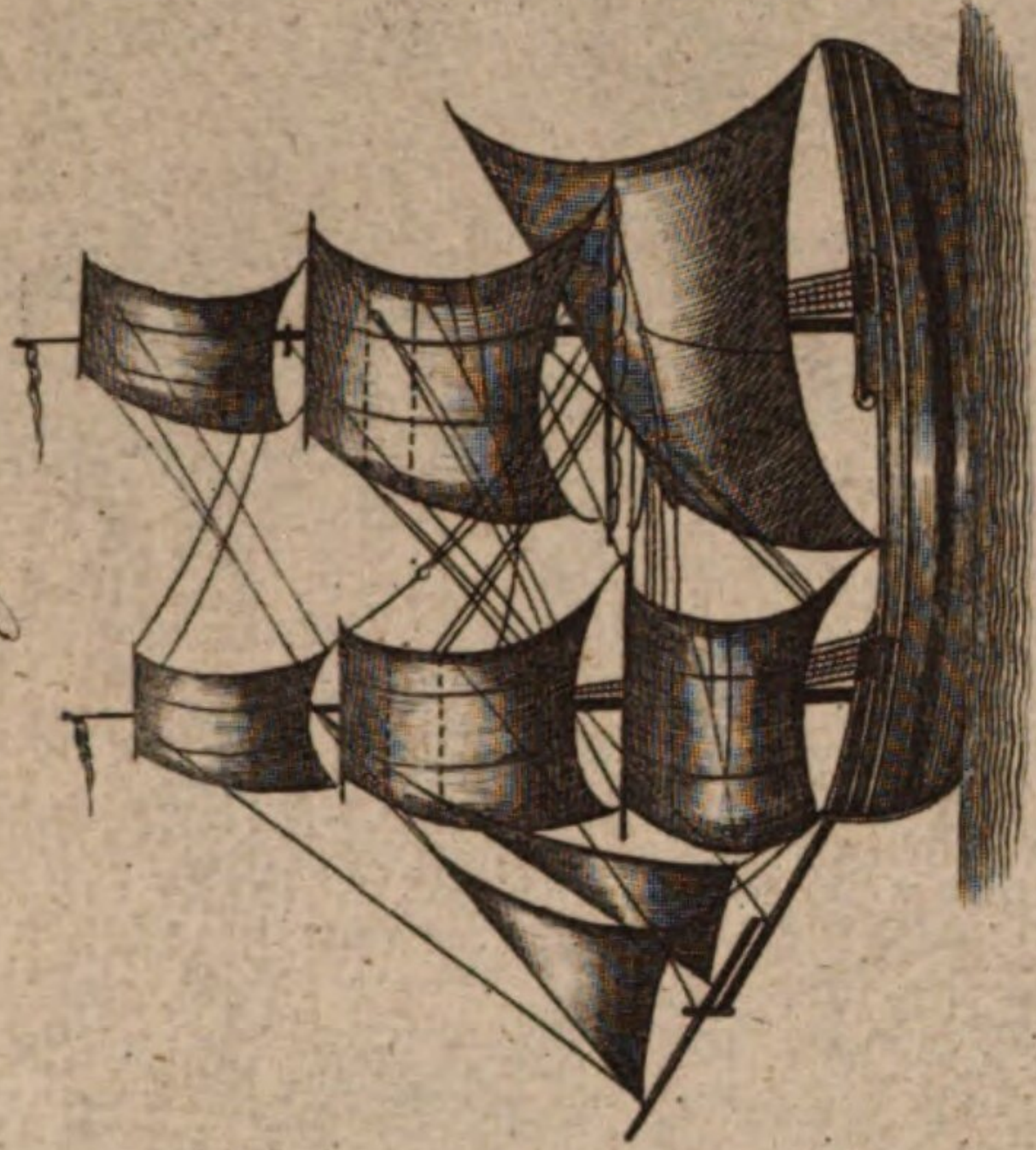
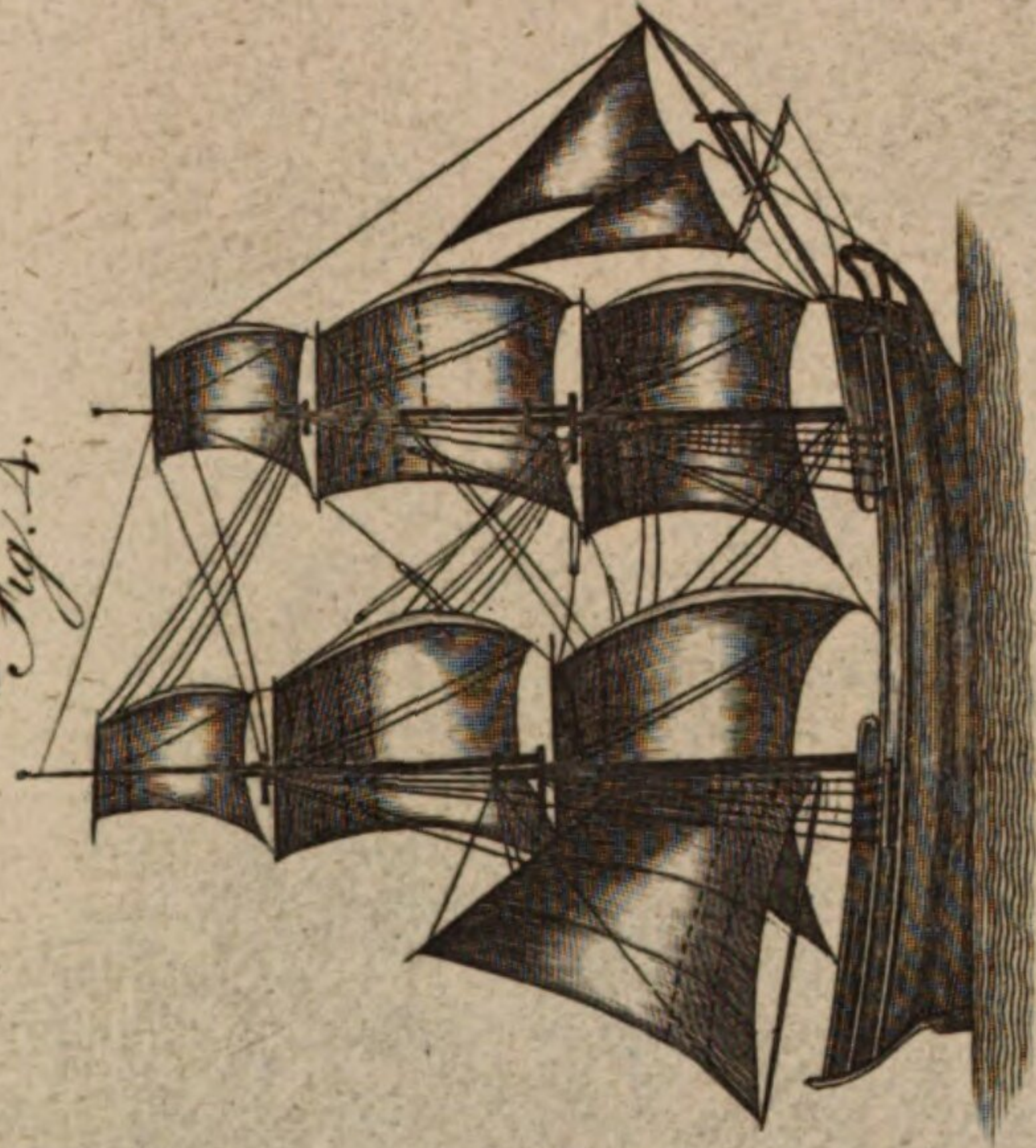
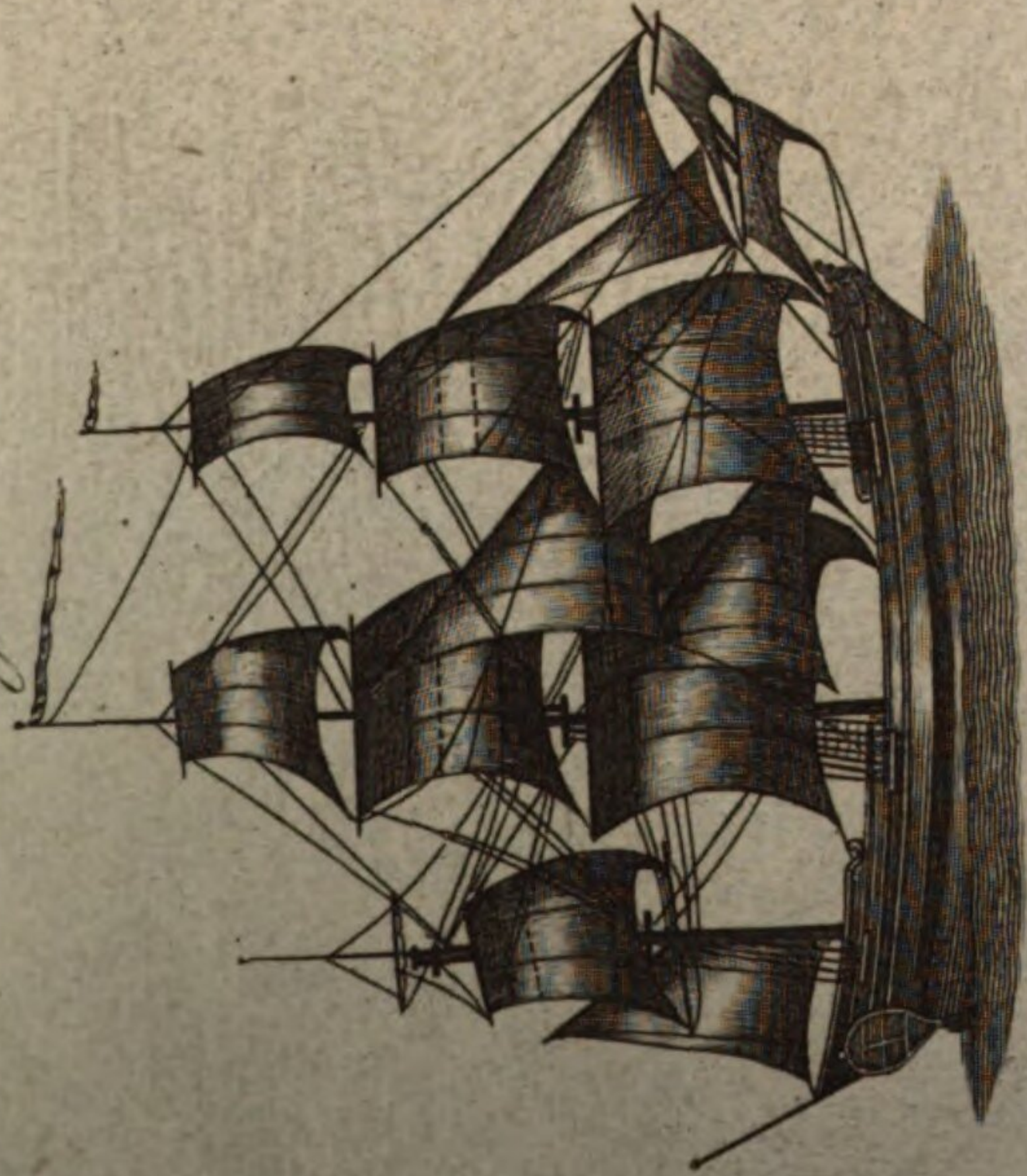


Fig. 2.

The Section of a First Rate SHIP of War, Shewing its various Timbers and Apartments.

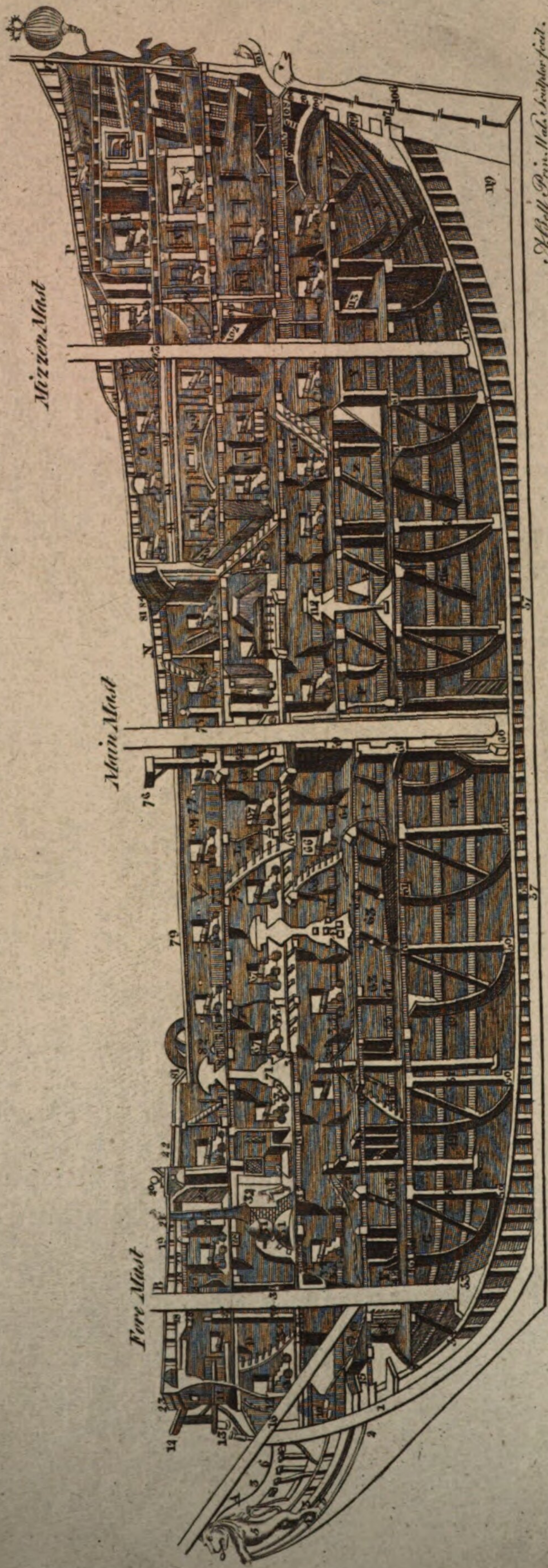


Fig. 8.



Fig. 7.



Fig. 6.



Fig. 10.



Fig. 12.



Fig. 9.



Fig. 14.

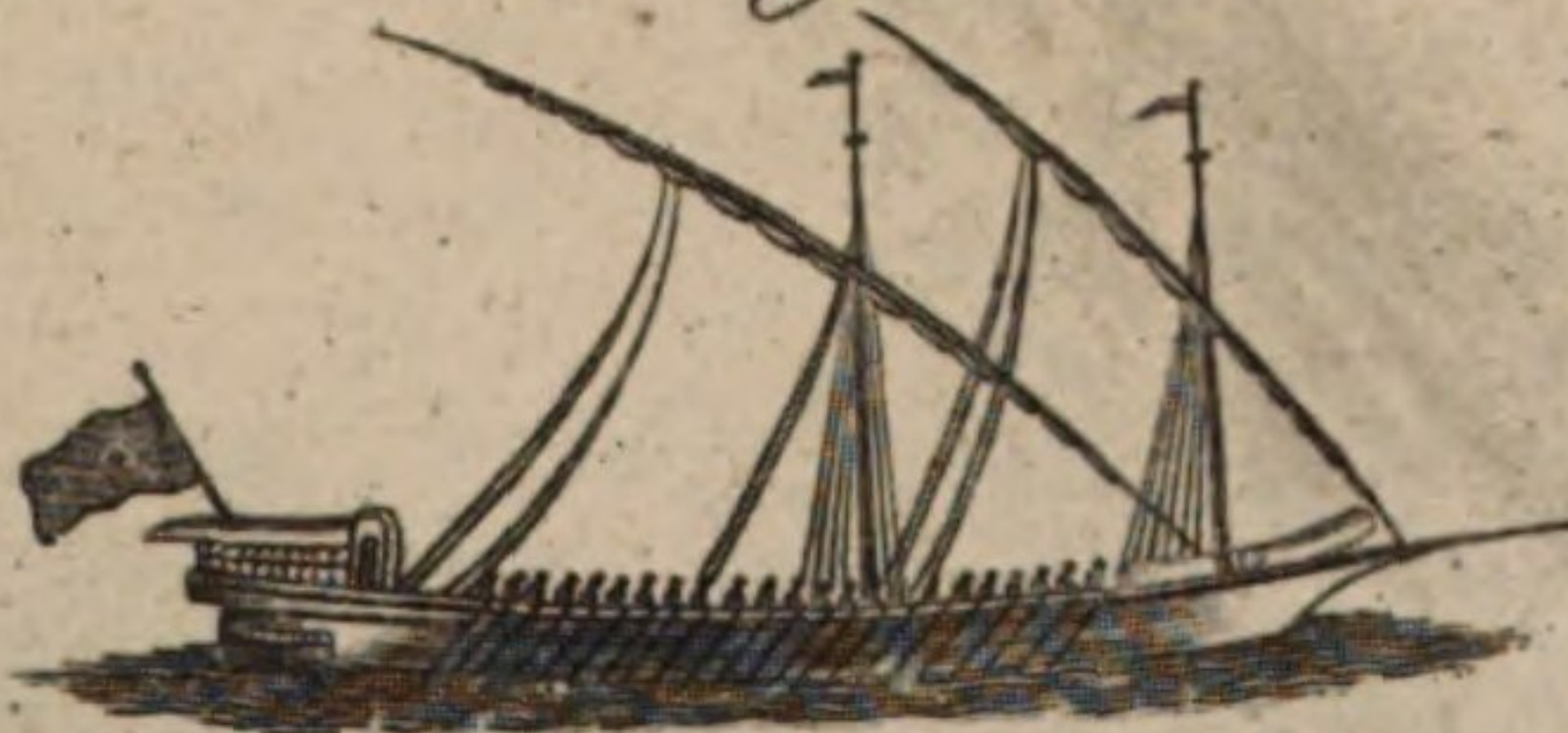


Fig. 11.



Fig. 13.



Ship. 111, The bread-room scuttle, out of the gun-room; 112, The main capstan; 113, The pall of the capstan; 114, The partner; 115, The bulkhead of the bread-room.

X, The bread-room.

Y, The steward's room, where all provisions are weighed and served out.

Z, The cockpit, where are subdivisions for the purser, the surgeon, and his mates.

AA, The platform or orlop, where provision is made for the wounded in the time of service; 116, The hold abaft the main-mast; 117, The step of the mizen-mast; 118, The kelson, or false keel; 119, The dead wood, or rising.

Ships of war are fitted out either at the expence of the state or by individuals. Those fitted out at the public expence are called *King's ships*, and are divided into *ships of the line*, *frigates*, *sloops*, &c. For an account of each of these, see the respective articles. Ships of war fitted out by individuals are called *privateers*. See the article *PRIVATEER*.

Armed-SHIP. See *ARMED-SHIP*.

Bomb-SHIP. See *BOMB-Vessels*.

Double-SHIP. See *SHIP-Building*.

Fire-SHIP. See *FIRE-SHIP*.

Hospital-SHIP, a vessel fitted up to attend on a fleet of men of war, and receive their sick or wounded; for which purpose her decks should be high, and her ports sufficiently large. Her cables ought also to run upon the upper deck, to the end that the beds or cradles may be more commodiously placed between decks, and admit a free passage of the air to disperse that which is offensive or corrupted.

Merchant-SHIP, a vessel employed in commerce to carry commodities of various sorts from one port to another.

The largest merchant ships are those employed by the different companies of merchants who trade to the East Indies. They are in general larger than our 40 gun ships; and are commonly mounted with 20 guns on their upper-deck, which are nine pounders; and six on their quarter-deck, which are six pounders.

Register-SHIP. See *REGISTER-SHIP*.

Store-SHIP, a vessel employed to carry artillery or naval stores for the use of a fleet, fortrefs, or garrison.

Transport-SHIP, is generally used to conduct troops from one place to another.

Besides the different kinds of ships abovementioned, which are denominated from the purpose for which they are employed, vessels have also, in general, been named according to the different manner of rigging them. It would be an endless, and at the same time an unnecessary task, to enumerate all the different kinds of vessels with respect to their rigging; and therefore a few only are here taken notice of. Fig. 3. Plate CCCCLI. is a *ship* which would be converted into a *bark* by stripping the mizen-mast of its yards and the sails belonging to them. If each mast, its corresponding topmast and topgallant-mast, instead of being composed of separate pieces of wood, were all of one continued piece, then this vessel with very little alteration would be a *polacre*. Fig. 4. represents a *snor*; fig. 5. a *bilander*; fig. 6. a *brig*; fig. 7. a *ketch*; fig. 8. a *schooner*; fig. 9. a *sloop*; fig. 10. a *xebec*; fig. 11. a *galliot*; fig. 12. a *dogger*; fig. 13. a *galley* under sail; fig. 14. ditto rowing.

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Ships are also sometimes named according to the different modes of their construction. Thus we say, a *cat-built ship*, &c.

To SHIP, is either used actively, as to embark any person or put any thing aboard ship: or passively, to receive any thing into a ship; as, "we shipped a heavy sea at three o'clock in the morning."

To SHIP, also implies to fix any thing in its place; as, to ship the oars, that is, to put them in their rowlocks; to ship the swivel guns, is to fix them in their sockets; to ship the handspokes, &c.

Machine for drawing Bolts out of SHIPS, an instrument invented by Mr William Hill for this purpose. His account of which is as follows*.

"First, The use of this machine is to draw the kelson and dead wood bolts out, and to draw the knee of the head bolts.—Secondly, The heads of the kelson bolts heretofore were all obliged to be driven thro' the kelson, floor-timbers, and keel, to get them out: by this means the kelson is often entirely destroyed, and the large hole the head makes materially wounds the floors; and frequently, when the bolt is much corroded, it scarfs, and the bolt comes out of the side of the keel.—Thirdly, The dead-wood bolts that are driven with two or three drifts, are seldom or never got out, by which means the dead-wood is condemned, when some of it is really serviceable.—Fourthly, In drawing the knee of the head-bolts, sometimes the knee starts off, and cannot be got to again, but furs up, and with this machine may be drawn in; for it has been proved to have more power in starting a bolt than the maul."

In fig. 1. "A, A, represent two strong male screws, working in female screws near the extremities of the cheeks, against plates of iron E, E. C C is the bolt to be drawn; which, being held between the chaps of the machine at DD, is, by turning the screws by the lever B, forced upwards out of the wood or plank of the ship. F, F, are two dogs, with hooks at their lower extremities; which, being driven into the plank, serve to support the machine till the chaps have got fast hold of the bolt. At the upper part of these dogs are rings passing thro' holes in a collar, moveable near the heads of the screws. Fig. 2. is a view of the upper side of the cheeks when joined together; a, a, the holes in which the screws work; b, the chaps by which the bolts are drawn. Fig. 3. The under side of the cheek: a, a, the holes in which the screws work; b, the chaps by which the bolts are drawn, and where the teeth that gripe the bolt are more distinctly shown. Fig. 4. One of the cheeks separated from the other, the letters referring as in fig. 2. and 3.

This machine was tried in his majesty's yard at Deptford, and was found of the greatest utility.—"First, it drew a bolt that was driven down so tight as only to go one inch in sixteen blows with a double-headed maul, and was well clenched below: the bolt drew the ring a considerable way into the wood, and wire drew itself through, and left the ring behind. Secondly, it drew a bolt out of the Venus's dead-wood that could not be got out by the maul. That part of it which went through the keel was bent close up to the lower part of the dead-wood, and the machine drew the bolt straight, and drew it out with ease. It also drew a kelson bolt out of the Stanley West Indiaman, in Messrs Wells's yard, Deptford; which being a bolt of two drifts, could not be driven out.

Ship.

* Taylor's
Instructions
to Young
Mariners
Riding at
Anchor in
moderate
Weather.

Management of Ships at single anchor, is the method of taking care of a ship while riding at single anchor in a tide-way, by preventing her from fouling her anchor, &c. The following rules for this purpose, with which we have been favoured by Mr Henry Taylor* of North Shields, will be found of the utmost consequence.

Riding in a tide-way, with a fresh-of-wind, the ship should have what is called a *short* or *windward service*, say 45 or 50 fathoms of cable, and always sheered to windward (A), not always with the helm hard down, but more or less so according to the strength or weakness of the tide. It is a known fact, that many ships sheer their anchors home, drive on board of other ships, and on the sands near which they rode, before it has been discovered that the anchor had been moved from the place where it was let go.

1
When the
ship will
back.

When the wind is cross, or nearly cross, off shore, or in the opposite direction, ships will always back. This is done by the mizen-topfail, assisted, if needful, by the mizen-stayfail; such as have no mizen-topfail commonly use the main-topfail, or if it blows fresh, a top-gallant-fail, or any such fail at the gaff.

In backing, a ship should always wind with a taught cable, that it may be certain the anchor is drawn round. In case there is not a sufficiency of wind for that purpose, the ship should be hove apeak.

2
How the
yards ought
to be braced.

Riding with the wind afore the beam, the yards should be braced forward; if abaft the beam, they are to be braced all aback.

3
Riding
windward
tide in dan-
ger of
breaking
her sheer.

If the wind is so far aft that the ship will not back (which should not be attempted if, when the tide eases, the ship forges ahead, and brings the buoy on the lee quarter), she must be set ahead: if the wind is far aft, and blows fresh, the utmost care and attention is necessary, as ships riding in this situation often break their sheer, and come to windward of their anchors again. It should be observed, that when the ship lies in this ticklish situation, the after-yards must be braced forward, and the fore-yards the contrary way: she will lay safe, as the buoy can be kept on the lee quarter, or suppose the helm is aport, as long as the buoy is on the larboard quarter. With the helm thus, and the wind right aft, or nearly so, the starboard main and fore braces should be hauled in. This supposes the main braces to lead forward.

4
Tending to
leeward
when the
ship must
be set a-
head.

When the ship begins to tend to leeward, and the buoy comes on the weather-quarter, the first thing to be done is to brace about the fore-yard; and when the wind comes near the beam, set the fore-stayfail, and

Keep it standing until it shakes; then brace all the yards sharp forward, especially if it is likely to blow strong.

If laying in the aforesaid position, and she breaks her sheer, brace about the main-yard immediately; if she recovers and brings the buoy on the lee or larboard quarter, let the main-yard be again braced about; but if she come to a sheer the other way, by bringing the buoy on the other quarter, change the helm and brace the fore-yard to.

Riding leeward tide with more cable than the wind-ward service, and expecting the ship will go to windward of her anchor, begin as soon as the tide eases to shorten in the cable. This is often hard work; but it is necessary to be done, otherwise the anchor may be fouled by the great length of cable the ship has to draw round; but even if that could be done, the cable would be damaged against the bows or cut-water. It is to be observed, that when a ship rides windward tide the cable should be cackled from the short service towards the anchor, as far as will prevent the bare part touching the ship.

When the ship tends to windward and must be set ahead, hoist the fore-stayfail as soon as it will stand, and when the buoy comes on the leequarter, haul down the fore-stayfail, brace to the fore-yard, and put the helm a-lee; for till then the helm must be kept a-weather and the yards full.

When the ship rides leeward tide, and the wind increaseth, care should be taken to give her more cable in time, otherwise the anchor may start, and probably it will be troublesome to get her brought up again; and this care is the more necessary when the ship rides in the haufe of another ship. Previous to giving a long service it is usual to take a weather-bit, that is, a turn of the cable over the windlass end, so that in veering away the ship will be under command. The service ought to be greased, which will prevent its chafing in the haufe.

If the gale continues to increase, the topmasts should be struck in time; but the fore-yard should seldom, if ever, be lowered down, that in case of parting the fore-fail may be ready to be set. At such times there should be more on deck than the common anchor-watch, that no accident may happen from inattention or falling asleep.

In a tide-way a second anchor should never be let go but when absolutely necessary; for a ship will sometimes ride easier and safer, especially if the sea runs high, with a very long scope of cable and one anchor, than with

7

(A) It has been thought by some theorists, that ships should be sheered to leeward of their anchors; but experience and the common practice of the best informed seamen are against that opinion: for it is found, that when a ship rides leeward tide and sheered to windward, with the wind two or three points upon the bow, and blowing hard in the interval between the squalls, the sheer will draw her towards the wind's eye; so that when the next squall comes, before she be pressed astream of her anchor, it is probable there will be a lull again, and the spring which the cable got by the sheer will greatly ease it during the squall.

Every seaman knows that no ship without a rudder, or the helm left loose, will wear; they always in such situations fly to: this proves that the wind pressing upon the quarter and the helm alee, a ship will be less liable to break her sheer than when the helm is a-weather. Besides, if the helm is a-lee when she breaks her sheer, it will be a-weather when the wind comes on the other quarter, as it ought to be until she either swing to leeward, or bring the buoy on the other quarter. Now if the ship breaks her sheer with the helm a-weather, it throws her head to the wind so suddenly as scarce to give time to brace the yards about, and very probably she will fall over her anchor before the fore-stayfail can be got up.

Ship.

5
How to
manage
when the
ship breaks
her sheer.

6
When a
long ser-
vice is out,
and the
ship is like-
ly to go to
windward.

7
How to
manage in
a storm.

less

Ship.

less length and two cables; however, it is advisable, as a preventive, when ships have not room to drive, and the night is dark, to let fall a second anchor under foot, with a range of cable along the deck. If this is not thought necessary to be done, the deep-sea lead should be thrown overboard, and the line frequently handled by the watch, that they may be assured she rides fast.

8
Caution
respecting
the anchor
watch.

If at any time the anchor-watch, presuming on their own knowledge, should wind the ship, or suffer her to break her sheer without calling the mate, he should immediately, or the very first opportunity, oblige the crew to heave the anchor in sight; which will prevent the commission of the like fault again; for besides the share of trouble the watch will have, the rest of the crew will blame them for neglecting their duty.

9
The parti-
cular duty
of the chief
mate.

Prudent mates seldom lie a week in a roadstead without heaving their anchor in sight; even though they have not the least suspicion of its being foul. There are other reasons why the anchor should be looked at; sometimes the cable receives damage by sweeping wrecks or anchors that have been lost, or from rocks or stones; and it is often necessary to trip the anchor, in order to take a clearer birth, which should be done as often as any ship brings up too near.

Method for the safe removal of such SHIPS as have been driven on shore. For this purpose empty casks are usually employed to float off the vessel, especially if she is small, and at the same time near the port to which it is proposed to conduct her. In other cases, the following method adopted by Mr Barnard * will answer.

* Philosophi-
cal Trans-
actions,
vol. lxx.
part 1.

"On January 1. 1779 (says Mr Barnard), in a most dreadful storm, the York East Indiaman, of eight hundred tons, homeward bound, with a pepper cargo, parted her cables in Margate roads, and was driven on shore, within one hundred feet of the head and thirty feet of the side of Margate pier, then drawing twenty-two feet six inches water, the flow of a good spring tide being only fourteen feet at that place.

"On the third of the same month I went down, as a ship-builder, to assist, as much as lay in my power, my worthy friend Sir Richard Hotham, to whom the ship belonged. I found her perfectly upright, and her stern (or side appearance) the same as when first built, but sunk to the twelve feet water-mark fore and aft in a bed of chalk mixed with a stiff blue clay, exactly the shape of her body below that draft of water; and from the rudder being torn from her as she struck coming on shore, and the violent agitation of the sea after her being there, her stern was so greatly injured as to admit free access thereto, which filled her for four days equal to the flow of the tide. Having fully informed myself of her situation and the flow of spring-tides, and being clearly of opinion she might be again got off, I recommended, as the first necessary step, the immediate discharge of the cargo; and, in the progress of that business, I found the tide always flowed to the same height on the ship; and when the cargo was half discharged, and I knew the remaining part should not make her draw more than eighteen feet water, and while I was observing the water at twenty-two feet six inches by the ship's marks, she instantly lifted to seventeen feet eight inches; the water and air being before excluded by her pressure on the clay, and the atmosphere acting upon her upper part equal to six hundred tons, which is the

weight of water displaced at the difference of these two drafts of water.

Ship.

"The moment the ship lifted, I discovered she had received more damage than was at first apprehended, her leaks being such as filled her from four to eighteen feet water in an hour and a half. As nothing effectual was to be expected from pumping, several scuttles or holes in the ship's side were made, and valves fixed thereto, to draw off the water at the lowest ebb of the tide, to facilitate the discharge of the remaining part of the cargo; and, after many attempts, I succeeded in an external application of sheep-skins sewed on a sail and thrust under the bottom, to stop the body of water from rushing so furiously into the ship. This business effected, moderate pumping enabled us to keep the ship to about six feet water at low water, and by a vigorous effort we could bring the ship so light as (when the cargo should be all discharged) to be easily removed into deeper water. But as the external application might be disturbed by so doing, or totally removed by the agitation of the ship, it was absolutely necessary to provide some permanent security for the lives of those who were to navigate her to the river Thames. I then recommended as the cheapest, quickest, and most effectual plan, to lay a deck in the hold, as low as the water could be pumped to, framed so solidly and securely, and caulked so tight, as to swim the ship independent of her own leaky bottom.

"Beams of fir-timber twelve inches square were placed in the hold under every lower-deck beam in the ship, as low as the water would permit; these were in two pieces, for the convenience of getting them down, and also for the better fixing them of an exact length, and well bolted together when in their places. Over these were laid long Dantzic deals of two inches and an half thick, well nailed and caulked. Against the ship's side, all fore and aft, was well nailed a piece of fir twelve inches broad and six inches thick on the lower and three inches on the upper edge, to prevent the deck from rising at the side. Over the deck, at every beam, was laid a cross piece of fir timber six inches deep and twelve inches broad, reaching from the pillar of the hold to the ship's side, on which the shores were to be placed to resist the pressure of the water beneath. On each of these, and against the lower-deck beam, at equal distances from the side and middle of the ship, was placed an upright shore, six inches by twelve, the lower end let two inches into the cross piece. From the foot of this shore to the ship's side, under the end of every lower deck beam, was placed a diagonal shore six inches by twelve, to ease the ship's deck of part of the strain by throwing it on the side. An upright shore of three inches by twelve was placed from the end of every cross piece to the lower deck beams at the side, and one of three inches by twelve on the midship end of every cross piece to the lower deck beam, and nailed to the pillars in the hold. Two firm tight bulkheads or partitions were made as near the extremes of the ship as possible. The ceiling or inside plank of the ship was very securely caulked up to the lower deck, and the whole formed a complete ship with a flat bottom within side, to swim the outside leaky one; and that bottom being depressed six feet below the external water, resisted the ship's weight above it equal to five hundred and eighty-one tons, and safely conveyed her to the dry-dock at Deptford."

S H I P - B U I L D I N G .

Definition.

SHIP-BUILDING, or NAVAL ARCHITECTURE, is the art of constructing a ship so as to answer a particular purpose either of war or merchandise.

History.

To whom the world is indebted for the invention of ships, is, like all other things of equal antiquity, uncertain.

A very small portion of art or contrivance was seen in the first ships: they were neither strong nor durable; but consisted only of a few planks laid together, without beauty or ornament, and just so compacted as to keep out the water. In some places they were only the hulks or stocks of trees hollowed, and then consisted only of one piece of timber. Nor was wood alone applied to this use; but any other buoyant materials, as the Egyptian reed papyrus; or leather, of which the primitive ships were frequently composed; the bottom and sides being extended on a frame of thin battens or scantlings, of flexible wood, or begirt with wickers, such as we have frequently beheld amongst the American savages. In this manner they were often navigated upon the rivers of Ethiopia, Egypt, and Sabæan Arabia, even in latter times. But in the first of them, we find no mention of any thing but leather or hides sewed together. In a vessel of this kind, Dardanus secured his retreat to the country afterwards called *Troas*, when he was compelled by a terrible deluge to forsake his former habitation of Samothrace. According to Virgil, Charon's infernal boat was of the same composition.

But as the other arts extended their influence, naval architecture likewise began to emerge from the gloom of ignorance and barbarism; and as the ships of those ages were increased in bulk, and better proportioned for commerce, the appearance of those floating citadels of unusual form, full of living men, flying with seemingly expanded wings over the surface of the untravelled ocean, struck the ignorant people with terror and astonishment: and hence, as we are told by Aristophanes, arose the fable of Perseus flying to the Gorgons, who was actually carried thither in a ship! Hence, in all probability, the famous story of Triptolemus riding on a winged dragon is deduced, only because he sailed from Athens, in the time of a great dearth, to a more plentiful country, to supply the necessities of his people. The fiction of the flying horse Pegasus may be joined with these, who, as several mythologists report, was nothing but a ship with sails, and thence said to be the offspring of Neptune the sovereign of the sea; nor does there appear any other foundation for the stories of griffins, or of ships transformed into birds and fishes, which we so often meet with in the ancient poets. So acceptable to the first ages of the world were inventions of this nature, that whoever made any improvements in navigation or naval architecture, building new ships better fitted for strength or swiftness than those used before, or rendered the old more commodious by additional contrivances, or discovered countries unknown to former travellers, were thought worthy of the greatest honours, and often associated into the number of their deified heroes. Hence we have in astronomy the signs of Aries and Taurus, which were no other than two ships: the former trans-

ported Phryxus from Greece to Colchos, and the latter Europa from Phœnicia to Crete. Argo, Pegasus, and Perseus, were likewise new ships of a different sort from the former, which being greatly admired by the barbarous and uninstructed people of those times, were translated amongst the stars, in commemoration of their inventors, and metamorphosed into constellations by the poets of their own and of succeeding ages.

The chief parts, of which ships anciently consisted, were three, viz. the belly, the prow, and the stern: these were again composed of other smaller parts, which shall be briefly described in their order. In the description, we chiefly follow Scheffer, who hath so copiously treated this subject, and with such industry and learning collected whatever is necessary to illustrate it, that very little room is left for enlargement by those who incline to pursue this investigation.

1. In the belly, or middle part of the ship, there was *τροπῆς*, *carina*, or the "keel," which was composed of wood: it was placed at the bottom of the ship, being designed to cut and glide through the waves, and therefore was not broad, but narrow and sharp; whence it may be perceived that not all ships, but only the *μακραι*, which ships of war were called, whose bellies were straight and of a small circumference, were provided with keels, the rest having usually flat bottoms. Around the outside of the keel were fixed pieces of wood, to prevent it from being damaged when the ship was first launched into the water, or afterwards struck on any rocks; these were called *χειλισματα*, in Latin *cunei*.

Next to the keel was *φαλλῆς*, the "pump-well, or well-room," within which was contained the *αντλίων*, or "pump;" through which water was conveyed out of the ship.

After this, there was *δευτέρω τροπῆς*, or the "second keel," somewhat resembling what is now called the *kelson*; it was placed beneath the pump, and called *λίσσιν*, *χαλκηνε*, *κλειτοποδίων*: by some it is falsely supposed to be the same with *φαλλῆς*.

Above the pump was an hollow place, called by Herodotus *κοιλὴ τῆς νηὸς*, by Pollux *κυτός* and *γαστέρα*, because large and capacious, after the form of a belly; by the Latins, *testudo*. This was formed by crooked ribs, with which it was surrounded, which were pieces of wood rising from the keel upwards, and called by Hesychius *νομῆες*, and by others, *εἰκοιλία*, the belly of the ship being contained within them: in Latin, *costæ*; and in English, *timbers*. Upon these were placed certain planks, which Aristophanes calls *εντερωνείας*, or *εντερωνίδα*.

The *πλευραι*, *lateræ*, or "sides" of the ship, encompassed all the former parts on both hands; these were composed of large rafters extended from prow to stern, and called *ζωσῆρες*, and *ζωμιαματα*, because by them the whole fabric was begirt or surrounded.

In both these sides the rowers had their places, called *τοιχοί* and *ιδωλία*, in Latin *fori* and *transstra*, placed above one another; the lowest was called *θαλαμος*, and those that laboured therein *θαλαμῖται* the middle, *ζυγα*, and the men *ζυγιοί*; the uppermost *θρανῖται*, whence the rowers

Machine for drawing
SHIP BOLTS.

Plate CCCCLIII.

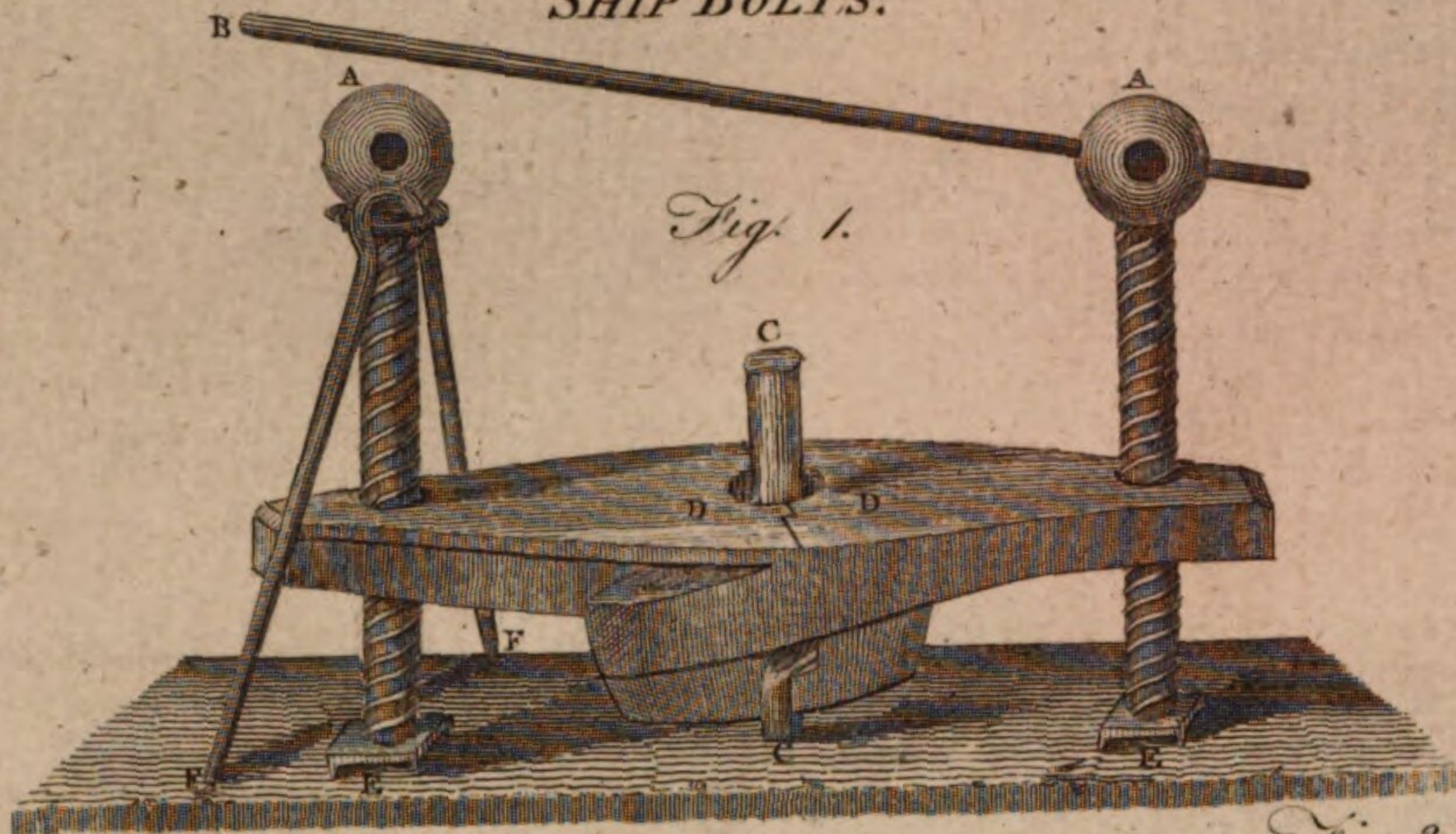


Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.

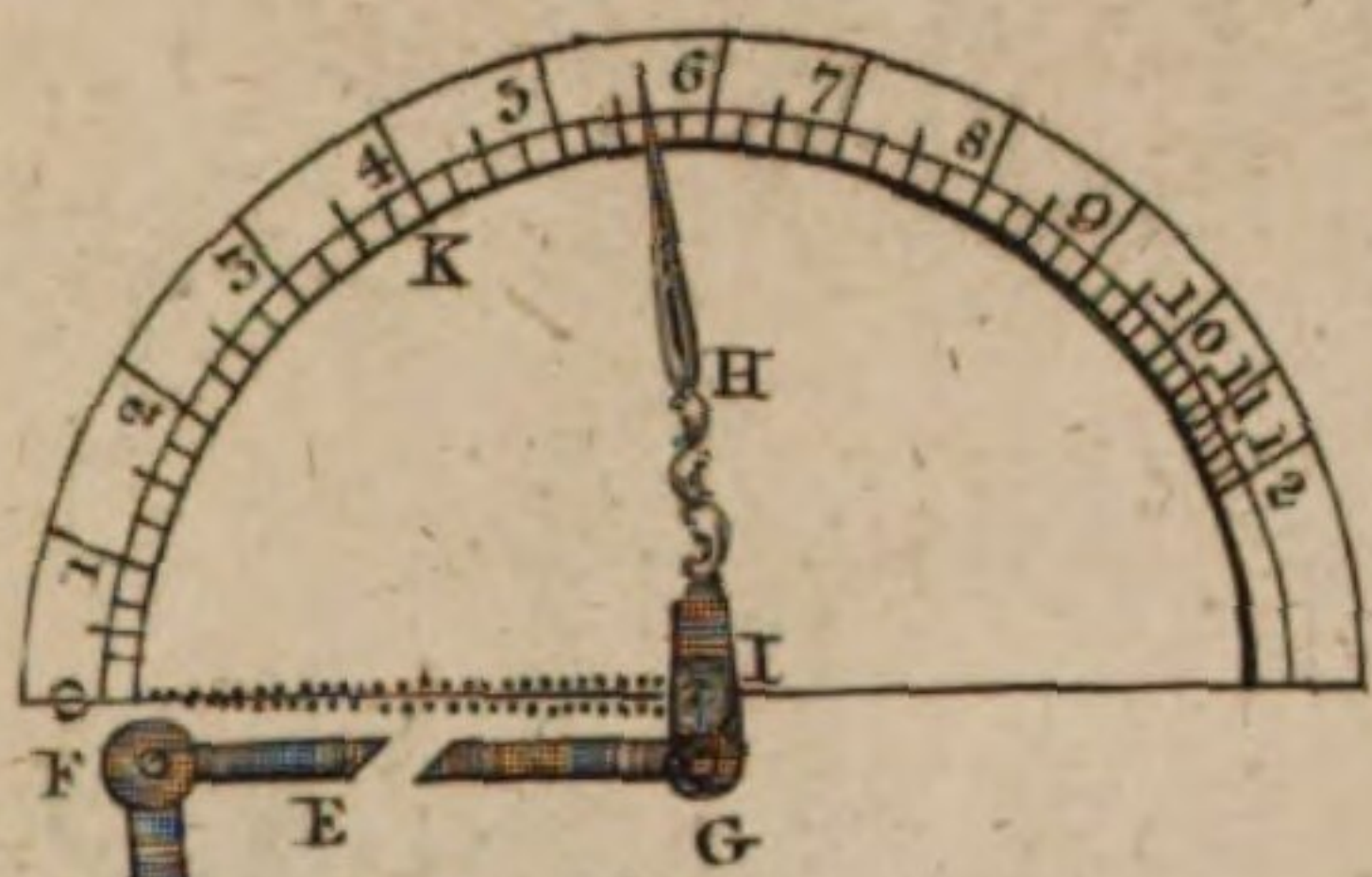


Fig. 5.

Fig. 6.



Fig. 7.

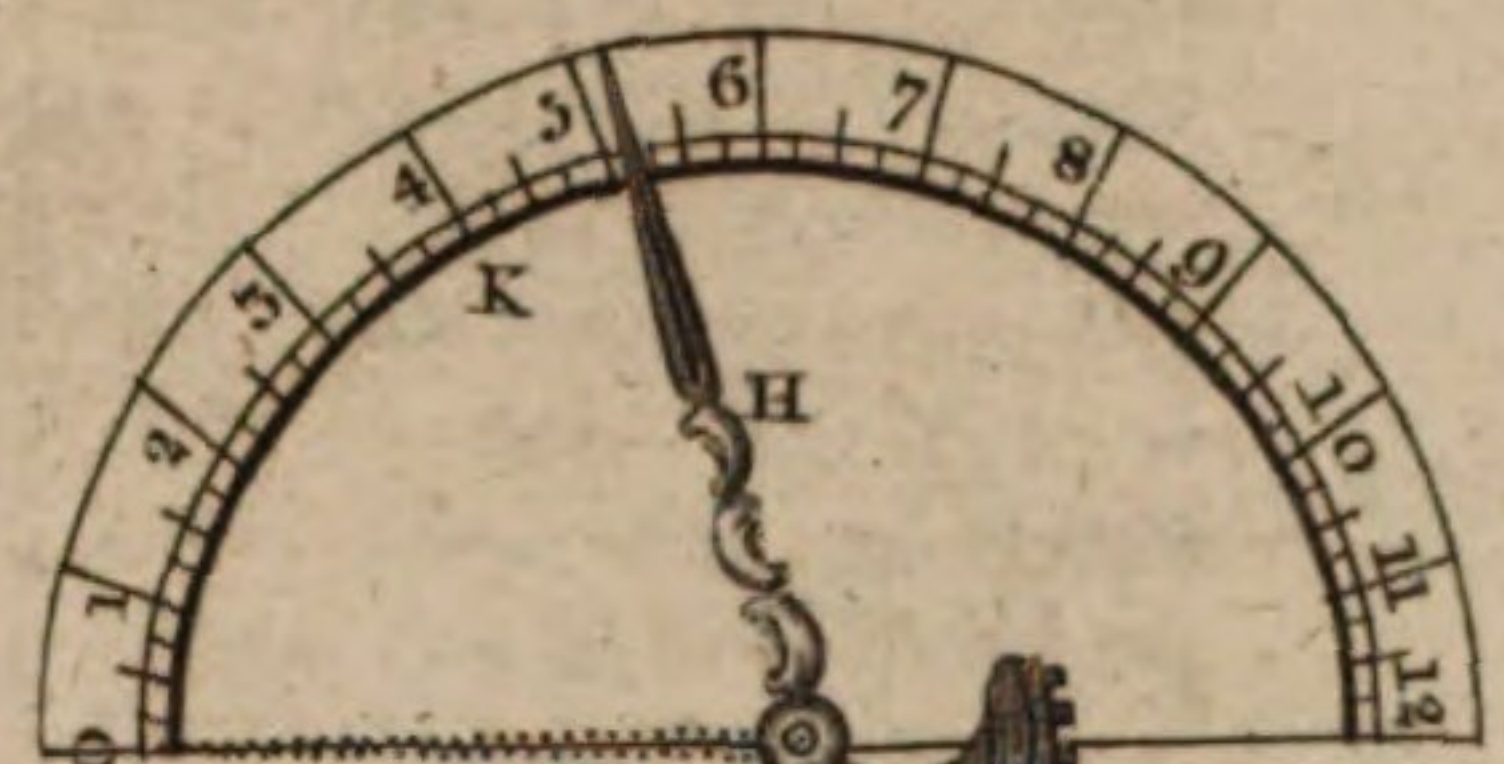


Fig. 8.

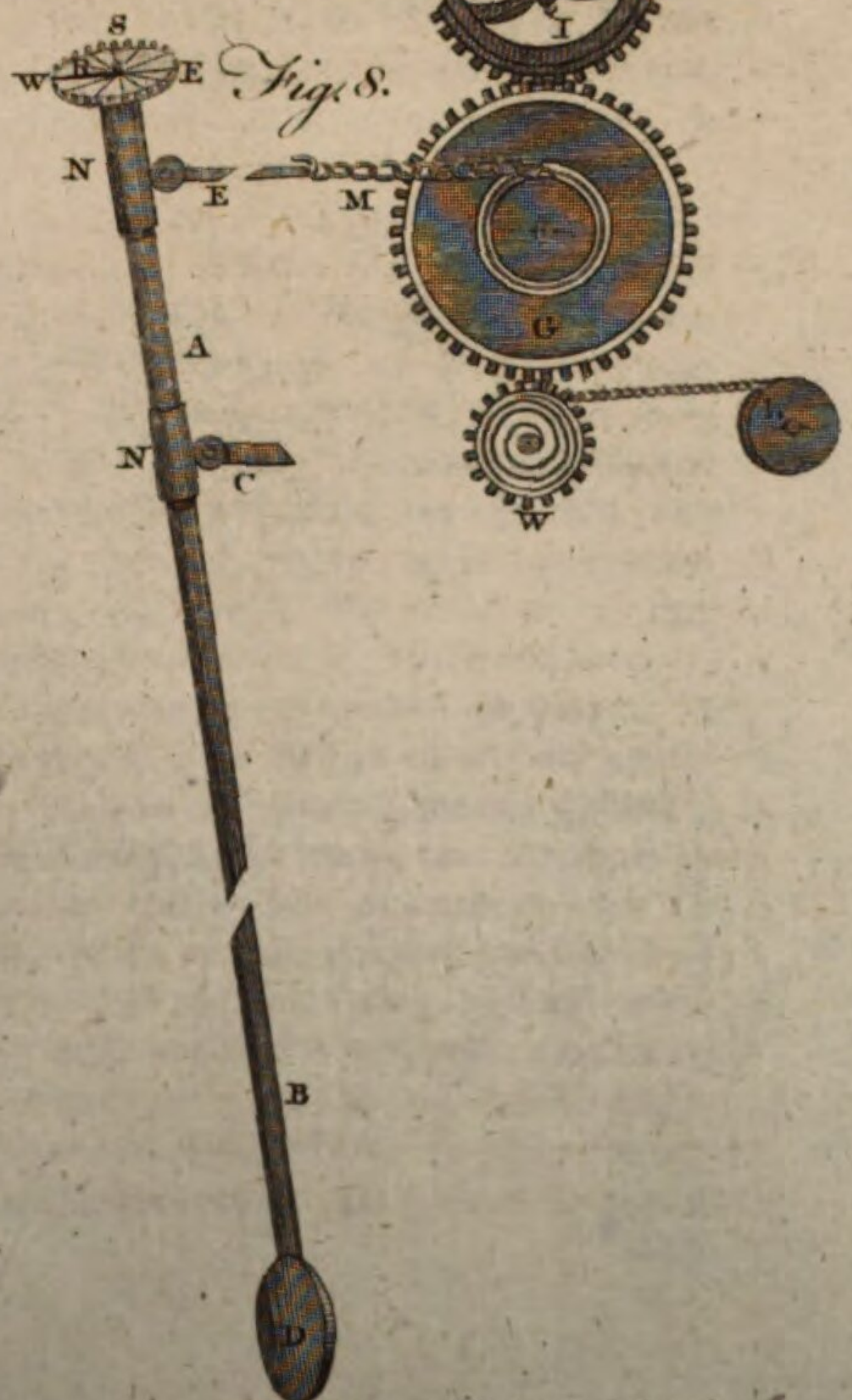
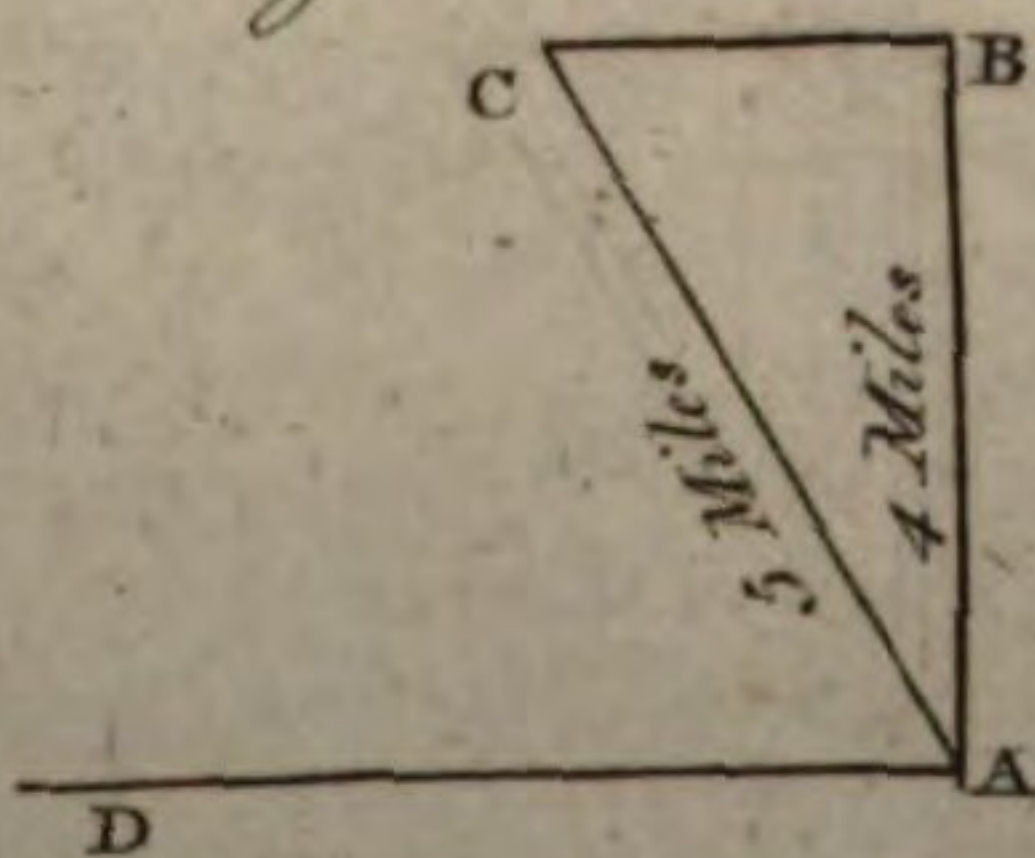


Fig. 9.



A. Bell, Print. Wals. Sculptor fecit

History. **rowers** were termed *δρανιται*. In these apartments were spaces through which the rowers put their oars; these were sometimes one continued vacuity from one end to the other, called *τραρηξ*, but more usually distinct holes, each of which was designed for a single oar; these were styled *τρηματα*, *τρυπηματα*, as also *οφθαλμοι*, because not unlike the eyes of living creatures. All of them were by a more general name termed *γκωπα*, from containing the oars; but *γκωπιν* seems to have been another thing, signifying the spaces between the banks of oars on each side, where the passengers appear to have been placed. On the top of all there was a passage or place to walk, called *παραδος*, and *παραθρανος*, as joining to the *δρανοι*, or uppermost bank of oars.

2. *Πρωρα*, the "prow or fore-deck," whence it is sometimes called *μετωπον*, and commonly distinguished by other metaphorical titles taken from human faces. In some ships there is mention of two prows, as also two sterns; such was Danaus's ship adorned by Minerva when he fled from Egypt. It was usual to beautify the prow with gold and various sorts of paint and colours; in the primitive times red was most in use; whence Homer's ships were commonly dignified with the titles of *μυλτοπαρηροι*, and *ροινικοπαρηροι*, or "red faced;" the blue likewise, or sky-colour, was frequently made use of, as bearing a near resemblance to the colour of the sea; whence we find ships called by Homer *κυανοπαρηροι*, by Aristophanes *κυανιμβολοι*. Several other colours were also made use of; nor were they barely varnished over with them, but very often annealed by wax melted in the fire, so as neither the sun, winds, nor water, were able to deface them. The art of doing this was called from the wax *κηρογραφια*, from the fire *ικαυστικη*, which is described by Vitruvius, and mentioned in Ovid.

———— *Picta coloribus uflis*
Ceruleam matrem concava puppis habet.

The painted ship with melted wax anneal'd
Had Tethys for its deity ———

In these colours the various forms of gods, animals, plants, &c. were usually drawn, which were likewise often added as ornaments to other parts of the ships, as plainly appears from the ancient monuments presented to the world by Baysius.

The sides of the prow were termed *πτερα*, or "wings," and *παρια*, according to Scheffer, or rather *παρτιαι*; for since the prow is commonly compared to a human face, it will naturally follow that the sides should be called *cheeks*. These are now called *βοτρυς* by our mariners.

3. *Πρυμνη*, "the hind-deck or poop," sometimes called *υψος*, the "tail," because the hindmost part of the ship; it was of a figure more inclining to round than the prow, the extremity of which was sharp, that it might cut the waters; it was also built higher than the prow, and was the place where the pilot sat to steer; the outer-bending part of it was called *πιστιων*, answering to our term *quarter*.

They had various ornaments of sculpture on the prow; as helmets, animals, triumphal wreaths, &c.—The stern was more particularly adorned with wings, shields, &c. Sometimes a little mast was erected whereon to hang ribbands of divers colours, which served instead of a flag to distinguish the ship; and a weather-cock, to signify the part from whence the wind blew.

History. On the extremity of the prow was placed a round piece of wood, called the *πρυχης*, from its bending; and sometimes *οφθαλμος*, the "eye" of the ship, because fixed in the fore-deck; on this was inscribed the name of the ship, which was usually taken from the figure painted on the flag. Hence comes the frequent mention of ships called *Pegasi*, *Scyllæ*, *bulls*, *rams*, *tigers*, &c. which the poets took the liberty to represent as living creatures that transported their riders from one country to another.

The whole fabric being completed, it was fortified with pitch, and sometimes a mixture of resin, to secure the wood from the waters; whence it comes that Homer's ships are everywhere mentioned with the epithet of *μελαιναι*, or "black." The first that made use of pitch were the inhabitants of Phæacia, since called Corsica; sometimes wax was employed in the same use; whence Ovid,

Cerulea ceratas accipit unda rates.

The azure waves receive the waxed ships.

After all, the ship being bedecked with garlands and flowers, the mariners also adorned with crowns, she was launched into the sea with loud acclamations and other expressions of joy; and being purified by a priest with a lighted torch, an egg and brimstone, or after some other manner, was consecrated to the god whose image she bore.

The ships of war of the ancients were distinguished from other kinds of vessels by various turrets and accessions of building, some to defend their own soldiers, and others to annoy the enemy; and from one another, in latter ages, by several degrees or ranks of oars, the most usual number of which was four or five, which appear not to have been arranged, as some imagine, on the same level in different parts of the ship; nor yet, as others have supposed, directly above one another's heads; but their seats being placed one behind another, ascended gradually, like stairs. Ptolemy Philopater, urged by a vain-glorious desire of exceeding all the world besides in naval architecture, is said to have farther enlarged the number of banks to 40; and the ship being otherwise in equal proportion, this raised her to such an enormous bulk, that she appeared at a distance like a floating mountain or island; and, upon a nearer view, like a prodigious castle on the ocean. She was 280 cubits long, 38 broad, and 48 high (each cubit being 1 English foot 5½ inches), and carried 400 rowers, 400 sailors, and 3000 soldiers. Another which the same prince made to sail on the Nile, we are told, was half a stadium long. Yet these were nothing in comparison of Hiero's ship, built under the direction of Archimedes; on the structure whereof Moschion wrote a whole volume. There was wood enough employed in it to make 50 galleys; it had all the variety of apartments of a palace; such as banqueting-rooms, galleries, gardens, fish-ponds, stables, mills, baths, and a temple to Venus. The floors of the middle apartment were all inlaid, and represented in various colours the stories of Homer's Iliad. The ceilings, windows, and all other parts, were finished with wonderful art, and embellished with all kinds of ornaments. In the uppermost apartment there was a spacious gymnasium, or place for exercise, and water was conveyed to the garden by pipes, some

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some of hardened clay, and others of lead. The floors of the temple of Venus were inlaid with agates and other precious stones; the inside lined with cypress wood; the windows adorned with ivory paintings and small statues. There was likewise a library. This vessel was adorned on all sides with fine paintings. It had 20 benches of oars, and was encompassed with an iron rampart, eight towers, with walls and bulwarks, furnished with machines of war, particularly one which threw a stone of 300 pounds, or a dart 12 cubits long, the space of half a mile, with many other particulars related by Athenæus. Caligula likewise built a vessel adorned with jewels in the poop, with sails of many colours, and furnished with large porticoes, bagnios, and banqueting-rooms, besides rows of vines, and fruit-trees of various kinds. But these, and all such monstrous fabrics, served only for show and ostentation, being rendered by their vast bulk unwieldy and unfit for service. Athenæus informs us, the common names they were known by, were *Cyclades*, or *Ætna*, i. e. "islands, or mountains," to which they seemed nearly equal in bigness; consisting, as some report, of as many materials as would have composed 50 triremes, or ships of three banks.

The vessels employed by the northern nations appear to have been still more imperfect than those of the Romans; for a law was enacted in the reign of the emperor Honorius, 24th September, A. D. 418, inflicting capital punishment on any who should instruct the barbarians in the art of ship-building; a proof at once of the great estimation in which this science was then held, and of the ignorance of the barbarians with regard to it.

The fleet of Richard I. of England, when he weighed anchor for the holy war from Messina, in Sicily, where he had passed the winter, A. D. 1190-1, is said to have consisted of 150 great ships and 53 galleys, besides barks, tartans, &c. What kinds of ships these were is not mentioned. To the crusades, however pernicious in other respects, this science seems to owe some improvements; and to this particular one we are indebted for Richard's marine code, commonly called the *Laws of Oleron*, from the name of a small island on the coast of France, where he composed them, and which most of the nations in Europe have made the basis of their maritime regulations. Those ships, if they merited the name of ships, were probably very small, as we find that so long after as the time of Edward I. anno 1304, 40 men were deemed sufficient to man the best and largest vessels in England; and that Edward the Third, anno 1335, ordained the mayor and sheriffs of London to "take up all ships in their port, and all other ports in the kingdom, of the burden of 40 tons and upwards, and to furnish the same with armed men and other necessities of war, against the Scots his enemies, confederated with certain persons of foreign nations." Edward the Third's fleet before Calais, anno 1347, consisted of 738 English ships, carrying 14,956 mariners, being on an average but 20 men to each ship; 15 ships and 459 mariners, from Bayonne in Guienne, being 30 men to each ship; 7 ships and 184 men from Spain, which is 26 men to each ship; one from Ireland, carrying 25 men; 14 from Flanders, with 133 men,

being scarcely 10 men to each ship; and one from Guelderland, with 24 mariners. Fifteen of these were called the king's own ships, manned with 419 mariners, being somewhat under 17 to each ship.

Historians represent the vessels of Venice and Genoa as the largest and the best about this time, but they were soon exceeded in size by the Spanish vessels called *carricks*, some of which carried cannon; and these again were exceeded by the vessels built by the northern people, particularly those belonging to the Hanse-towns.— In the 14th century, the Hansiatics were the sovereigns of the northern seas, as well without as within the Baltic; and their ships were so large, that foreign princes often hired them in their wars. According to Hakluyt, an English ship from Newcastle, of 200 tons burden, was seized in the Baltic by those of Wismar and Rostock, anno 1394; and another English vessel of the same burden was violently seized in the port of Lisbon, anno 1412.

Soon after ships of a much larger size were constructed. It is mentioned that a very large ship was built, anno 1449, by John Taverner of Hull; and in the year 1455, king Henry IV. at the request of Charles king of Sweden, granted a licence for a Swedish ship of the burden of a thousand tons or under, laden with merchandize, and having 120 persons on board, to come to the ports of England, there to dispose of their lading, and to relade back with English merchandize, paying the usual customs. The inscription on the tomb of William Canning, an eminent merchant, who had been five times mayor of Bristol, in Ratcliff-church at Bristol, anno 1474, mentions his having forfeited the king's peace, for which he was condemned to pay 300 merks; in lieu of which sum, king Edward IV. took of him 2470 tons of shipping, amongst which there was one ship of 900 tons burden, another of 500 tons, and one of 400 tons, the rest being smaller.

In the year 1506, king James IV. of Scotland built the largest ship which had hitherto been seen, but which was lost in her way to France in the year 1512, owing probably to a defective construction, and the unskilfulness of the crew in managing so large a ship.— About this time a very large ship was likewise built in France. In the fleet fitted out by Henry VIII. anno 1512, there was one ship, the Regent, of 1000 tons burden, one of 500, and three of 400 each. A ship still larger than the Regent was built soon after, called *Henri Grace Dieu*! In the year 1522 the first voyage round the globe was finished.

The English naval historians think that ships carried cannon on their upper decks only, and had not gunports before the year 1545: and it is certain that many of the largest ships in former times were fitted out from harbours, where ships of a moderate size now would not have water enough to float them. In 1575 the whole of the royal navy did not exceed 24 ships, and the number of merchant-ships belonging to England amounted to no more than 135 vessels above 100 tons, and 656 between 40 and 100 tons. At queen Elizabeth's death, anno 1603, there were not above four merchant-ships in England of 400 tons burden each.— The largest of queen Elizabeth's ships of war was 1000 tons burden, carrying but 340 men, and 40 guns, and the

Fœdera,
vol. ii.
p. 943.

Ib. vol. iv.
p. 664.

History.

Fœdera,
vol. viii.
p. 727.

Ib. vol. xi.
p. 258.

Ib. vol. xi.
p. 364.

Munson's
Naval
Traffic,
p. 294.

History. the smallest 600 tons, carrying 150 men and 30 guns. Smaller vessels were occasionally hired by her from private owners.

In the memorable sea-fight of Lepanto between the Turks and Christians, *anno* 1571, no vessels were employed but galleys; and it would appear from the carcasses of some of them, which are still preserved in the arsenal at Venice, that even these were not so large or so well constructed as those of our times. The Invincible Armada, as Spanish vanity styled it, once the terror and admiration of nations, in the pompous and exaggerated descriptions of which the Spanish authors of those times dwelt with so much apparent pleasure, consisted of 130 ships, near 100 of which were the stateliest that had yet been seen on the ocean. The largest of these, however, would be no more than a third rate vessel in our navy, and they were so ill constructed, that they would neither move easily, sail near the wind, nor be properly worked in tempestuous weather. The whole of the naval force collected by Queen Elizabeth to oppose this formidable fleet, including hired vessels, tenders, store-ships, &c. amounted to no more than 143.

Ship-building began now to make a considerable progress in Britain. Both war and trade required an increase of shipping; so that, in the year 1670, the annual charge of the navy was reported to be £. 500,000; and in 1678 the navy consisted of 83 ships, of which 58 were of the line. At this time the exports amounted to ten millions *per annum*; and the balance of trade was two millions. In 1689 there were 173 ships, great and small, in the royal navy, and it has been constantly increasing; so that in 1761 the ships in the navy amounted to 372, of which 129 were of the line; and in the beginning of the year 1795, the total amount was above 430.

3 Ships of the common form found defective, **4** And improvements proposed.

As ships of the common construction are found to be very defective in many particulars, various methods have therefore from time to time been proposed to remove some of the bad qualities they possessed. - As it would be an endless task to enumerate the different inventions for this purpose, therefore a few of them only will be mentioned.

5 Double ships introduced by Sir William Petty, *European Magazine* for August 1782.

In 1663 Sir William Petty constructed a double ship, or rather a single ship with a double bottom, which was found to sail considerably faster than any of the ships with which it had an opportunity of being tried. Her first voyage was from Dublin to Holyhead; and in her return "she turned into that narrow harbour against wind and tide, among rocks and ships, with such dexterity as many ancient seamen confessed they had never seen the like." This vessel with 70 more were lost in a dreadful tempest.

6 And again proposed by Mr Gordon, *P. 54.*

This subject was again revived by Mr Gordon, in his *Principles of Naval Architecture*, printed at Aberdeen *anno* 1784; where, having delivered his sentiments on the construction of large masts, he says: "These ex-

periments likewise point out to us methods by which two vessels may be laterally connected together, though at a considerable distance from each other, in a manner sufficiently strong, with very little increase of weight or expence of materials, and without exposing much surface to the action or influence of the wind or the waves, or obstructing their motion in any considerable degree, and consequently without being much opposed by them on that account under any circumstances; and if vessels are judiciously constructed with a view to such a junction, it would be no easy matter to enumerate all the advantages that may be obtained by this means." He then enumerates the advantages that double vessels would have over those of the common construction. Soon after double ships were actually built by Mr Miller of Dalswinton.

Another plan was proposed by Mr Gordon to make a ship sail fast, draw little water, and to keep a good wind. For this purpose, "the bottom (he says) should be formed quite flat, and the sides made to rise perpendicular from it, without any curvature; which would not only render her more steady, as being more opposed to the water in rolling, but likewise more convenient for stowage, &c. while the simplicity of the form would contribute greatly to the ease and expedition with which she might be fabricated. Though diminishing the draught of water is, *ceteris paribus*, undoubtedly the most effectual method of augmenting the velocity with which vessels go before the wind; yet, as it proportionally diminishes their hold of the water, it renders them extremely liable to be driven to leeward, and altogether incapable of keeping a good wind. This defect may, however, be remedied, in a simple and effectual manner, by proportionally augmenting the depth of keel, or, as so large a keel would be inconvenient on many accounts, proportionally increasing their number; as, in place of adding a keel eight feet deep to a vessel drawing six feet water, to affix to different parts of her flat bottom, which would be well adapted for receiving them, six different keels of two feet deep each at equal distances from each other, with proper intervals between; which will be found equally effectual for preventing these pernicious effects. Four such, indeed, would have answered the purpose as well as the eight feet keel, were it not for the superior pressure or resistance of the lower water (A).

Thus then it appears, that a vessel drawing eight feet water only, keels and all, may be made to keep as good a wind, or be as little liable to be driven to leeward, as the sharpest built vessel of the same length drawing 14, nay 20 or upwards, if a few more keels are added, at the same time that she would be little more resisted in moving in the line of the keels than a vessel drawing six feet water only. These keels, besides, would strengthen the vessel considerably, would render her more steady, and less liable to be overfet, and thereby enable

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And lately constructed by Mr Miller.

Principles of Naval Architecture, p. 76.

Draught of water proposed to be diminished in order to obtain velocity, &c.

Inconvenience of this plan.

Remedied by augmenting the depth of the keel.

Or by increasing the number of keels.

(A) This is frequently repeated on the authority of Mr Gordon and others. Theory says otherwise; and the experiments of Sir Isaac Newton show in the most unexceptionable manner, that the resistance of a ball descending through the water is the same at all depths; nay, the heaping up of the water on the bow, occasioning a hydrostatical pressure in addition to the real resistance, will make the whole opposition to an equal surface, but of greater horizontal dimensions, greater, because it bears a greater proportion to the resistance.

Book I. *Containing the Method of delineating the several Sections of a Ship.*

CHAP. I. *Of the Properties of Ships.*

History.

enable her to carry more sail; and Mr Gordon then enumerates the several advantages that a ship of this construction will possess.

12
The plan
farther im-
proved by
the adop-
tion of li-
ding keels.

This plan has lately been put into execution by Captain Schank, with this difference only, that instead of the keels being fixed as proposed by Mr Gordon, Captain Schank constructed them so as to slide down to a certain depth below the bottom, or to be drawn up within the ship as occasion might require.

13
The utility
of sliding
keels pro-
ved by ex-
periment.

Captain Schank having communicated his plans to the Navy Board, two vessels were in consequence ordered to be built of 13 tons each, and similar in dimensions, one on the old construction, and the other flat-bottomed, with sliding keels. In 1790 a comparative trial in presence of the commissioners of the navy was made on the river Thames, each having the same quantity of sail; and although the vessel on the old construction had leeboards, a greater quantity of ballast, and two Thames pilots aboard, yet Captain Schank's vessel with three sliding keels beat the other vessel, to the astonishment of all present, one half of the whole distance sailed; and no doubt she would have beat her much more had she been furnished with a Thames pilot.

14
And actu-
ally put in
practice
upon a
larger scale.

This trial gave so much satisfaction, that a king's cutter of 120 tons was immediately ordered to be built on the same construction, and Captain Schank was requested to superintend its building. This vessel was launched at Plymouth in 1791, and named the *Trial*. The length of this vessel is 66 feet, breadth 21 feet, and depth of the hold seven feet: her bottom is quite flat, and draws only six feet water, with all her guns, stores, &c. whereas all other vessels of her tonnage on the old construction draw 14 feet; so that she can go with safety into almost any harbour or creek. She has three sliding keels inclosed in a case or well; they are each 14 feet in length; the fore and the after keels are three feet broad each, and the middle keel is six feet broad. The keels are moveable by means of a winch, and may be let down seven feet below the real keel; and they work equally well in a storm as in still water. Her hold is divided into several compartments, all water-tight, and so contrived, that should even a plank or two start at sea in different parts of the vessel, she may be navigated with the greatest security to any place. If she should be driven on shore in a gale of wind, she will not soon become a wreck, as her keels will be driven up into their cases, and the ship being flat-bottomed, will not be easily overset; and being able to go into such shallow water, the crew may all be easily saved. By means of her sliding keels she is kept steady in the greatest gale; she is quite easy in a great sea, does not strain in the least, and never takes in water on her deck; and when at anchor, she rides more upright and even than any other ship can do: she sails very fast either before or upon a wind; no vessel she has ever been in company with, of equal size, has been able, upon many trials, to beat her in sailing; and yet her sails seem too small.

It has also been proposed to construct vessels of other materials than wood; and lately a vessel was built whose bottom, instead of being plank, was copper.

15
General
principles
of ship-
building.
A SHIP ought to be constructed so as to answer the particular purpose for which she is intended. It would be an easy matter to determine the form of a ship intended to sail by means of oars; but, when sails are used, a ship is then acted upon by two elements, the wind and water: and therefore it is much more difficult than is commonly imagined to ascertain the form of a ship so as to answer in an unfavourable as well as a favourable wind; the ship at the same time having a cargo of a certain weight and magnitude.

16
Properties
that a ship
must pos-
sess to be
a good sail-
er.
Every ship ought to sail well, but particularly when the wind is upon the beam; for this purpose a considerable length in proportion to the breadth is necessary, and the plane of resistance should be the least possible. The main frame should also be placed in a proper situation; but according to the experiments of Mr Chapman*, its plane is variable with the velocity of the ship: the mean place of the main frame has, however, been generally estimated to be about one-twelfth of the length of the keel before the middle. Without a sufficient degree of stability a ship will not be able to carry a press of sail: a great breadth in proportion to the length and low upper-works will augment the stability. The following particulars being attended to, the above property will be gained, and the ship will also steer well. The wing transom should be carried pretty high; the fashion-pieces well formed, and not full below the load water-line: the lower part of the stem to be a portion of a circle, and to have a considerable rake: the sternpost to be nearly perpendicular to the keel; and all the upper works kept as low as possible.

17
To make
a ship keep
a good
wind.
Many ships from construction are liable to make much leeway. This may in a great measure be avoided by giving the ship a long keel, little breadth, and a considerable depth in the hold: whence the bow will meet with little resistance in comparison to the side, and therefore the ship will not fall much to the leeward.

18
And to sail
smoothly
without
pitching
hard.
Another very great retardation to the velocity of a ship is her pitching. The principal remedy for this is to increase the length of the keel and floor, to diminish the rising afore and abaft, and to construct the hull in such a manner that the contents of the fore-body may be duly proportioned to the contents of the after-body.

19
In ships of
war the
lower deck
guns to be
sufficiently
high above
the water.
In a ship of war the lower tier of guns ought to be of a sufficient height above the water, otherwise it will be impossible to work the lee-guns when it blows hard. This property will be obtained by giving her a long floor-timber, little rising, a full midship frame, light upper works, and the wing transom not too high: And in every ship the extreme breadth ought always to be higher afore and abaft than at midships.

20
Properties
of a mer-
chant ship.
A merchant-ship, besides being a fast sailer, ought to carry a considerable cargo in proportion to its length, to sail with little ballast, and to be navigated with few hands.

21
To take in
a great car-
go.
That a ship may take in a considerable cargo, it should

Properties of Ships. ²² ^{And to have stability.} ^{Principles of Naval Architecture, p. 100.} ^{Advantages of a ship of a small draught of water,} should have a great breadth and depth in proportion to its length, a full bottom, and a long and flat floor. But a ship of this construction will neither sail fast, nor carry much sail.

If a ship be filled out much towards the line of floatation, together with low upper works, she will require little ballast: and that ship which is stiff from construction is much better adapted for sailing fast than one which, in order to carry the same quantity of canvas, is obliged to be loaded with a much greater weight: for the resistance is as the quantity of water to be removed, or nearly as the area of a transverse section of the immersed part of the body at the midship frame; and a body that is broad and shallow is much stiffer than one of the same capacity that is narrow and deep.

"The advantages (says Mr Gordon) are numerous, important, and obvious. For it is evident, that by enlarging, perhaps doubling, the breadth of vessels, and forming their bottoms flat and well furnished with keels, they must, in the *first* place, become much steadier, roll little, if any, and be enabled to carry greatly more sail, and that in a better direction, at the same time that they would be in no danger of being dismasted or overfet, unless the masts were of a most extraordinary height indeed. *Secondly*, They would have little or no occasion for ballast, and if any was used, could incur less danger from its shifting. *Thirdly*, That there would be much more room upon deck, as well as accommodation below; the breadth being so much increased without any diminution of the height above the load-water line. *Fourthly*, That they would deviate much less from the intended course, and penetrate the water much easier in the proper direction: for doubling the breadth, without any increase of weight, would diminish the depth or draught of water one half; and though the extent of the directly opposing surface would be the same as before, yet the vessel in moving would meet with half the former resistance only: for so great is the difference between the pressure, force, or reaction, of the upper and the under water. *Fifthly*, That they would by this means be adapted for lying unsupported in docks and harbours when dry, be rendered capable of being navigated in shallow water, and of being benefited by all the advantages attending that very important circumstance; and it is particularly to be observed, that making vessels which may be navigated in shallow water, may, in many respects, justly be regarded as a matter of equal importance with increasing the number of harbours, and improving them, as having identically the same effects with regard to navigation; at the same time, that the benefits which would result from such circumstances are obtained by this means without either expence, trouble, or inconvenience: besides, it would not only enable vessels to enter many rivers, bays, and creeks, formerly inaccessible to ships of burden, but to proceed to such places as are most land-locked, where they can lie or ride most secure, and with least expence of men and ground tackle. As ships of war would carry their guns well by being so steady, there could be but little occasion for a high topside, or much height of hull above water; and as little or no ballast would be required, there would be no necessity, as in other vessels, for increasing their weight on that account, and thereby pressing them deeper into the water. These are very important circum-

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stances, and would contribute much to improve the sailing of such vessels." From whence it appears, that there would be united, what has hitherto been deemed irreconcilable, the greatest possible stability, which is nearly as the area of a transverse section of the immersed part of the body at the midship frame: and a body that is broad and shallow is much stiffer than one of the same capacity that is narrow and deep. A ship of this construction may take in a considerable cargo in proportion to her size; but if deeply loaded will not sail fast, for then the area of a section of the immersed part at the midship frame will be very considerable; and as the sails of such a ship must necessarily be large, more hands will therefore be required.

The less the breadth of a ship, the fewer hands will be necessary to work her; as in that case the quantity of sail will be less, and the anchors also of less weight. We shall gain much (says M. Bouguer) by making the extreme breadth no more than the fifth or sixth part of the length, if, at the same time, we diminish the depth proportionally; and likewise this most surprising circumstance, that by diminishing these two dimensions, or by increasing the length, a ship may be made to go sometimes as fast as the wind.

In order to obtain the preceding properties, very opposite rules must be followed; and hence it appears to be impossible to construct a ship so as to be possessed of them all. The body, however, must be so formed, that as many of these properties may be retained as possible, always observing to give the preference to those which are most required. If it is known what particular trade the ship is to be employed in, those qualities are then principally to be adhered to which are most essentially necessary for that employment.

It may easily be demonstrated that small ships will not have the same advantages as large ones of a similar form, when employed in the same trade: for a large ship will not only sail faster than a small one of a similar form, but will also require fewer hands to work her. Hence, in order that a small ship may possess the same advantages as a large one, the corresponding dimensions will not be proportional to each other. The reader will see in Chapman's *Architectura Navalis Mercatoria* ample tables of the several dimensions of ships, of different classes and sizes, deduced from theory combined with experiment. Tables of the dimensions of the principal ships of the British navy, and of other ships, are contained in the Ship-builder's Repository, and in Murray's Treatise on Ship-building.

CHAP. II. Of the different Plans of a Ship.

WHEN it is proposed to build a ship, the proportional size of every part of her is to be laid down; from whence the form and dimensions of the timbers, and of every particular piece of wood that enters into the construction, is to be found. As a ship has length, breadth, and depth, three different plans at least are necessary to exhibit the form of the several parts of a ship: these are usually denominated the *sheer plan*, the *half breadth* and *body plans*.

The *sheer plan* or *draught*, otherwise called the *plan* ²⁷ ^{of elevation}, is that section of the ship which is made by a vertical plane passing through the keel. Upon this plan are laid down the length of the keel; the height and rake of the stem and sternpost; the situation

3 B

and

Properties of Ships.

And to be navigated with few hands. *Traité du Navire.*

Impossible to unite all the qualities in the same ship.

Small ships inferior to large ones in point of sailing, &c.

draught, or elevation.

Different
Plans of a
Ship.

28
Half
breadth
plan or
horizon-
tal plane.

29
Body plan,
or projec-
tion.

30
The vari-
ous lines
laid down
on these
plans.

and height of the midship and other frames; the place of the masts and channels; the projection of the head and quarter gallery, and their appendages; and in a ship of war the position and dimensions of the gun-ports. Several imaginary lines, namely, the upper and lower height of breadth lines, water lines, &c. are also drawn in this plan.

The *half breadth* or *floor plan*, or, as it is frequently called, the *horizontal plane*, contains the several half-breadths of every frame of timbers at different heights; ribbands, water lines, &c. are also described on this plane.

The *body plan*, or *plane of projection*, is a section of the ship at the midship frame or broadest place, perpendicular to the two former. The several breadths, and the particular form of every frame of timbers, are described on this plane. As the two sides of a ship are similar to each other, it is therefore unnecessary to lay down both; hence the frames contained between the main frame and the stem are described on one side of the middle line, commonly on the right hand side, and the after frames are described on the other side of that line.

Several lines are described on these planes, in order the more readily to assist in the formation of the timbers; the principal of which are the following:

The *top-timber line*, is a curve limiting the height of the ship at each timber.

The *top-timber half breadth line*, is a section of the ship at the height of the top-timber line, perpendicular to the plane of elevation.

The *height of breadth lines*, are two lines named the *upper* and *lower* heights of breadth. These lines are described on the plane of elevation to determine the height of the broadest part of the ship at each timber; and being described in the body plan, limits the height and breadth of each frame at its broadest part.

Main half breadth, is a section of the ship at the broadest part, perpendicular to the sheer plan, and represents the greatest breadth at the outside of every timber.

Water lines, are lines supposed to be described on the bottom of a ship when afloat by the surface of water; and the uppermost of these lines, or that described by the water on the ship's bottom when sufficiently loaded, is called the *load water line*. According as the ship is lightened, she will rise higher out of the water; and hence new water lines will be formed. If she be lightened in such a manner that the keel may preserve the same inclination to the surface of the water, these lines will be parallel to each other; and if they are parallel to the keel, they will be represented by straight lines parallel to each other in the body plan; otherwise by curves. In the half breadth plan, these lines are curves limiting the half breadth of the ship at the height of the corresponding lines in the sheer plan. In order to distinguish these lines, they are usually drawn in green.

Ribbon lines, are curves on a ship's bottom by the intersection of a plane inclined to the plane of elevation; and are denominated *diagonal* or *horizontal*, according as they are measured upon the diagonal, or in a direction perpendicular to the plane of elevation. Both these answer to the same curve on the ship's bottom, but give very different curves when described on the half breadth plan.

Frames, are circular pieces of timber bolted together, and raised upon the keel at certain distances, and to which the planks are fastened. A frame is composed of one floor-timber, two or three futtocks, and a top-timber on each side; which being united together, form a circular inclosure, and that which incloses the greatest space is called the *midship* or *main frame*. The arms of the floor-timber of this frame form a very obtuse angle; but in the other frames this angle decreases with the distance of the frame from midships. Those floor timbers which form very acute angles are called *crutches*. The length of the midship floor timber is in general about half the length of the main frame.

A frame of timbers is commonly formed by arches of circles called *sweeps*. There are generally five sweeps: 1st, The *floor sweep*; which is limited by a line in the body plan perpendicular to the plane of elevation, a little above the keel; and the height of this line above the keel at the midship frame is called the *dead rising*. The upper part of this arch forms the head of the floor timber. 2^d, The *lower breadth sweep*; the centre of which is in the line representing the lower height of breadth. 3^d, The *reconciling sweep*. This sweep joins the two former, without intersecting either; and makes a fair curve from the lower height of breadth to the rising line. If a straight line is drawn from the upper edge of the keel to touch the back of the floor sweep, the form of the midship frame below the lower height of breadth will be obtained. 4th, The *upper breadth sweep*; the centre of which is in the line representing the upper height of breadth of the timber. This sweep described upwards forms the lower part of the top timber. 5th, The *top timber sweep* is that which forms the hollow of the top timber. This hollow is, however, very often formed by a mould, so placed as to touch the upper breadth sweep, and pass through the point limiting the half breadth of the top timber.

The main frame, or as it is usually called *dead-flat*, is denoted by the character $\oplus$. The timbers before dead-flat are marked A, B, C, &c. in order; and those abaft dead-flat by the figures 1, 2, 3, &c. The timbers adjacent to dead-flat, and of the same dimensions nearly, are distinguished by the characters (A), (B), &c. and (1), (2), &c. That part of the ship abaft the main frame is called the *after body*; and that before it the *fore body*.

All timbers are perpendicular to the half breadth plan. Those timbers whose planes are perpendicular to the sheer plan, are called *square timbers*; and those whose planes are inclined to it are called *canted timbers*.

The *rising line*, is a curve drawn in the sheer plan, at the heights of the centres of the floor sweeps in the body plan. As, however, this line, if drawn in this manner, would extend beyond the upper line of the figure, it is therefore usually so drawn that its lower part may touch the upper edge of the keel. This is performed by taking the heights of each of the centres in the body plan, from the height of the centre of the sweep of dead-flat, and setting them off on the corresponding timbers in the sheer plan from the upper edge of the keel.

Half breadth of the rising, is a curve in the floor plan, which limits the distances of the centres of the floor sweeps from the middle line of the body plan.

Different
Plans of a
Ship.

31
Frames,
composed of a
floor tim-
ber, fut-
tocks, and
top timber.

32
Sweeps of
the several
parts of a
frame.

33
Names of
frames.

The

Different
Plans of a
Ship

The rising of the floor, is a curve drawn in the sheer plan, at the height of the ends of the floor timbers. It is limited at the main frame or dead flat by the dead rising, and in flat ships is nearly parallel to the keel for some timbers afore and abaft the midship frame; for which reason these timbers are called *flats*; but in sharp ships it rises gradually from the main frame, and ends on the stem and post.

Cutting down line, is a curve drawn on the plane of elevation. It limits the depth of every floor timber at the middle line, and also the height of the upper part of the dead wood afore and abaft.

Timber and room, or *room and space*, is the distance between the moulding edges of two timbers, which must always contain the breadth of two timbers and an interval of about two or three inches between them. In forming the timbers, one mould serves for two, the fore-side of the one being supposed to unite with the aftside of the other, and so make only one line, which is called the *joint of the timbers*.

In order to illustrate the above, and to explain more particularly the principal pieces that compose a ship, it will be necessary to give a description of them. These pieces are for the most part represented according to the order of their disposition in fig. 1. Plate CCCCLIV.

A, Represents the pieces of the keel to be securely bolted together and clinched.

B, The sternpost, which is tenanted into the keel, and connected to it by the knee G.

E, The back of the post, which is also tenanted into the keel, and securely bolted to the post; the intention of it is to give sufficient breadth to the post, which seldom can be got broad enough in one piece. C is the false post, which is fayed (B) to the fore part of the sternpost.

C, The stem, in two pieces, to be scarfed together. The stem is joined to the fore foot, which makes a part of both.

H, The apron, in two pieces, to be scarfed together, and fayed on the inside of the stem, to support the scarf thereof; and therefore the scarf of the apron must be at some distance from that of the stem.

I, The stemson, in two pieces, to support the scarf of the apron.

D, The beams which support the decks; and F the knees by which the beams are fastened to the sides of the ship.

K, The wing transom: it is fayed across the sternpost, and bolted to the head of it, and its extremities are fastened to the fashion pieces. L, Is the deck transom, parallel to the wing transom. M, N, Two of the lower transoms: these are fastened to the sternpost and fashion pieces in the same manner as the wing transom. Q, The knee which fastens the transom to the ship's side. And, O, The fashion piece, of which there is one on each side. The keel of the fashion piece is connected with the dead wood, and the head is fastened to the wing transom.

R, S, Breast-hooks: these are fayed in the inside to the stem, and to the bow on each side of it, to which they are fastened with proper bolts. There are gene-

rally four or five in the hold, in the form of that marked R, and one in the form of that marked S, into which the lower deck planks are rabbeted: There is also one immediately under the hause holes, and another under the second deck.

T, The rudder, which is joined to the sternpost by the rudder irons, upon which it turns round in the googings, fastened to the sternpost for that purpose. There is a mortise cut in the head of the rudder, into which a long bar is fitted called the *tiller*, and by which the rudder is turned.

U, A floor timber: it is laid across the keel, to which it is fastened by a bolt through the middle. V, V, V, V, The lower, the second, third, and fourth futtocks. W, W, The top timbers. These represent the length and scarf of the several timbers in the midship frame.

X, The pieces which compose the kelson. They are scarfed together in the same manner as the keel, and placed over the middle of the floor timbers, being scored about an inch and a half down upon each side of them, as represented in the figure.

Y, The several pieces of the knee of the head; the lower part of which is fayed to the stem, and its keel is scarfed to the head of the forefoot. It is fastened to the bow by two knees, called *cheeks*, in the form of that represented by Z; and to the stem, by a knee called a *standard*, in the form of that marked ⊕.

a, The cathead, of which there is one on each side of the bow, projecting so far as to keep the anchor clear of the ship when it is hove up.

b, The bits, to which the cable is fastened when the ship is at anchor.

d, The side counter-timbers, which terminate the ship abaft within the quarter gallery.

e, e, Two pieces of dead wood, one afore and the other abaft, fayed on the keel.

Fig. 2. is a perspective representation of a ship framed and ready for the planking; in which A, A is the keel; B, the sternpost; C, the stem; K, L, M, the transoms; F, F, F, F, F, F, the ribbands.

CHAP. III. Containing Preliminary Problems, &c.

THE general dimensions of a ship are the *length*, *breadth*, and *depth*.

To ascertain those dimensions that will best answer the intended purpose is, no doubt, a problem of considerable difficulty; and, from theory, it may be shown that there are no determinate proportions subsisting between the length, breadth, and depth, by which these dimensions may be settled; yet, by combining theory and practice, the proportional dimensions may be approximated to pretty nearly.

As ships are constructed for a variety of different purposes, their principal dimensions must therefore be altered accordingly, in order to adapt them as nearly as possible to the proposed intention; but since there is no fixed standard whereby to regulate these dimensions, the methods therefore introduced are numerous, and in a great measure depend upon custom and fancy.

With regard, however, to the proportional dimensions,

3 B 2

fions,

Different
Plans of a
Ship

34
Principal
pieces that
compose
a ship.

35
Proportional
dimensions
of a ship
36
To be inferred
from theory
combined
with prac-

(B) To faye, is to join two pieces of timber close together.

Preliminary Problems.

37
And also from the circle.

† *Practical Seaman'ship*, page 25.

sions, they perhaps may be inferred from the circle. Thus, if the extreme breadth be made equal to the diameter, the length at the load water line, or the distance between the rabbets of the stem and post at that place, may be made equal to the circumference of the same circle; and the depth of the hold equal to the radius, the upper works being continued upwards according to circumstances. A ship formed from these dimensions, with a bottom more or less full according as may be judged necessary, will no doubt answer the proposed intention. Nevertheless, one or other of these dimensions may be varied in order to gain some essential property, which the trade that the vessel is intended for may require.

The following hints are given by Mr Hutchinson † towards fixing rules for the best construction of ships bottoms.

i. "I would recommend (says he), to prevent ships bottoms from hogging * upwards amidship, to have the fore and after part of their keels deep enough, that the upper part may be made to admit a rabbet for the garboard streak, that the main body and bearing part of the ships bottoms may be made to form an arch downwards in their length, suppose with the same sweep as their bends, at the rate of about 2 inches for every 30 feet of the extreme length of the keel towards the midship or main frame, which may be reckoned the crown of the arch; and the lower part of the keel to be made straight, but laid upon blocks so that it may form a regular convex curve downwards at the rate of an inch for every 30 feet of the extreme length of the keel, the lowest part exactly under the main frame; which curve, I reckon, is only a sufficient allowance for the keel to become straight below, after they are launched afloat, by the pressure of the water upward against their floors amidship, which causes their tendency to hog. And certainly a straight keel is a great advantage in sailing, as well as to support them when laid upon level ground or on straight blocks in a repairing dock, without taking damage.

2. "As square sterned ships, from experience, are found to answer all trades and purposes better than round or pink sterned ships, I would recommend the fore part of the sternpost, on account of drawing the water lines in the draught, only to have a few inches rake, that the after part may stand quite upright perpendicular to the keel: and for the rake of the stem I would propose the rabbet for the hudding ends for the entrance, and bows from the keel upwards, to form the same curve as the water line from the stem at the harpin towards the main breadth, and the bows at the harpin to be formed by a sweep of a circle of half the three-fourths of the main breadth; and the main transom to be three-fourths of the main-breadth; and the buttocks, at the load or sailing mark aft, to be formed, in the same manner as the bows at the harpin, with a sweep of a circle of half the three fourths of the main breadth, to extend just as far from the stem and stern post as to admit a regular convex curve to the main frame, and from these down to the keel to form regular convex water-lines, without any of those unnatural, hollow, concave, ones, either in the entrance or run; which rules, in my opinion, will agree with the main body of the ship, whether she is designed to be built full for burden or sharp below for sailing.

3. "This rule for raking the stem will admit all the

water-lines in the ship's entrance to form convex curves all the way from the stem to the midship or main frame, which answers much better for sailing as well as making a ship more easy and lively in bad weather. And the bows should flange off, rounding in a circular form from the bends up to the gunwale, in order to meet the main breadth the sooner, with a sweep of half the main breadth at the gunwale amidships; which will not only prevent them greatly from being plunged under water in bad weather, but spread the standing fore-rigging the more, to support these material masts and sails forward to much greater advantage than in those over sharp bowed ships, as has been mentioned. And as the sailing trim of ships in general is more or less by the stem, this makes the water lines of the entrance in proportion the sharper to divide the particles of water the easier, so that the ship may press through it with the least resistance.

4. "The run ought to be formed shorter or longer, fuller or sharper, in proportion to the entrance and main body, as the ship is designed for burden or sailing fast. The convex curves of the water lines should lessen gradually from the load or sailing mark aft, as has been mentioned, downwards, till a fair straight taper is formed from the after part of the floor to the sternpost below, without any concavity in the water lines; which will not only add buoyancy and burden to the after body and run of the ship, but, in my opinion, will help both her sailing and steering motions; for the pressure of the water, as it closes and rises upon it to come to its level again, and fill up that hollow which is made by the fore and main body being pressed forward with sail, will impinge, and act with more power to help the ship forward in her progressive motion, than upon those unnatural concave runs, which have so much more flat dead wood, that must, in proportion, be a hinderance to the stern being turned so easily by the power of the helm to steer the ship to the greatest advantage."

Many and various are the methods which are employed to describe the several parts of a ship. In the following problems, however, those methods only are given which appear to be most easily applied to practice, and which, at the same time, will answer any proposed purpose.

PROB. I. To describe in the plane of elevation the sheer or curvature of the top timbers.

Let QR (fig. 3.) be the length of the ship between the wing transom and the rabbet of the stem. Then since it is generally agreed, especially by the French constructors, that the broadest part of the ship ought to be about one-twelfth of the length before the main frame or dead flat; therefore make $R\oplus$ equal to five-twelfths of QR, and $\oplus$ will be the station of the main frame; space the other frames on the keel, and from these points let perpendiculars be drawn to the keel. Let $\odot P$ be the height of the ship at the main frame, VF the height at the aftermost frame, and RK the height at the stem. Through P draw EPL parallel to the keel; describe the quadrants PGI, PMN, the radius being $P\oplus$; make PH equal to EF, and PO equal KL, and draw the parallels GH, OM: Divide GH similar to $\odot C$, and OM similar to $\odot R$. Through these points of division draw lines perpendicular to EL, and the several portions of these perpendiculars contained between EL and the arch will be the risings of the top.

Fig. 1.

PIECES of the HULL.

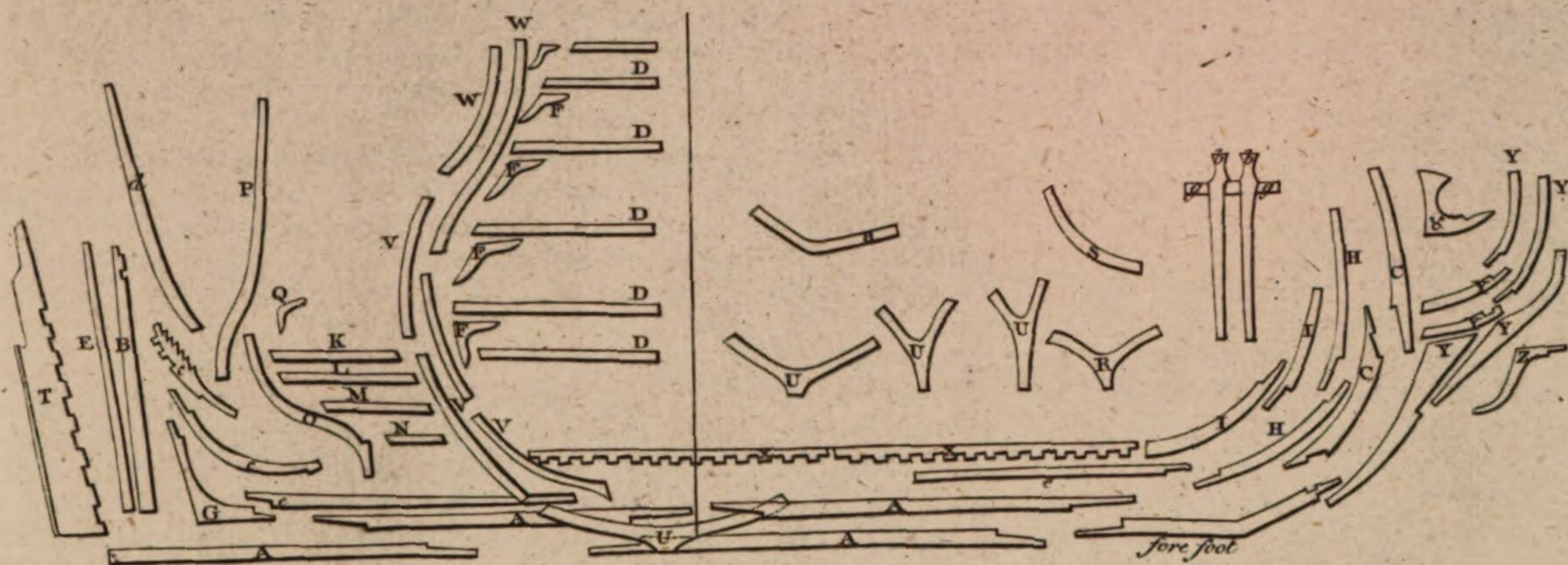
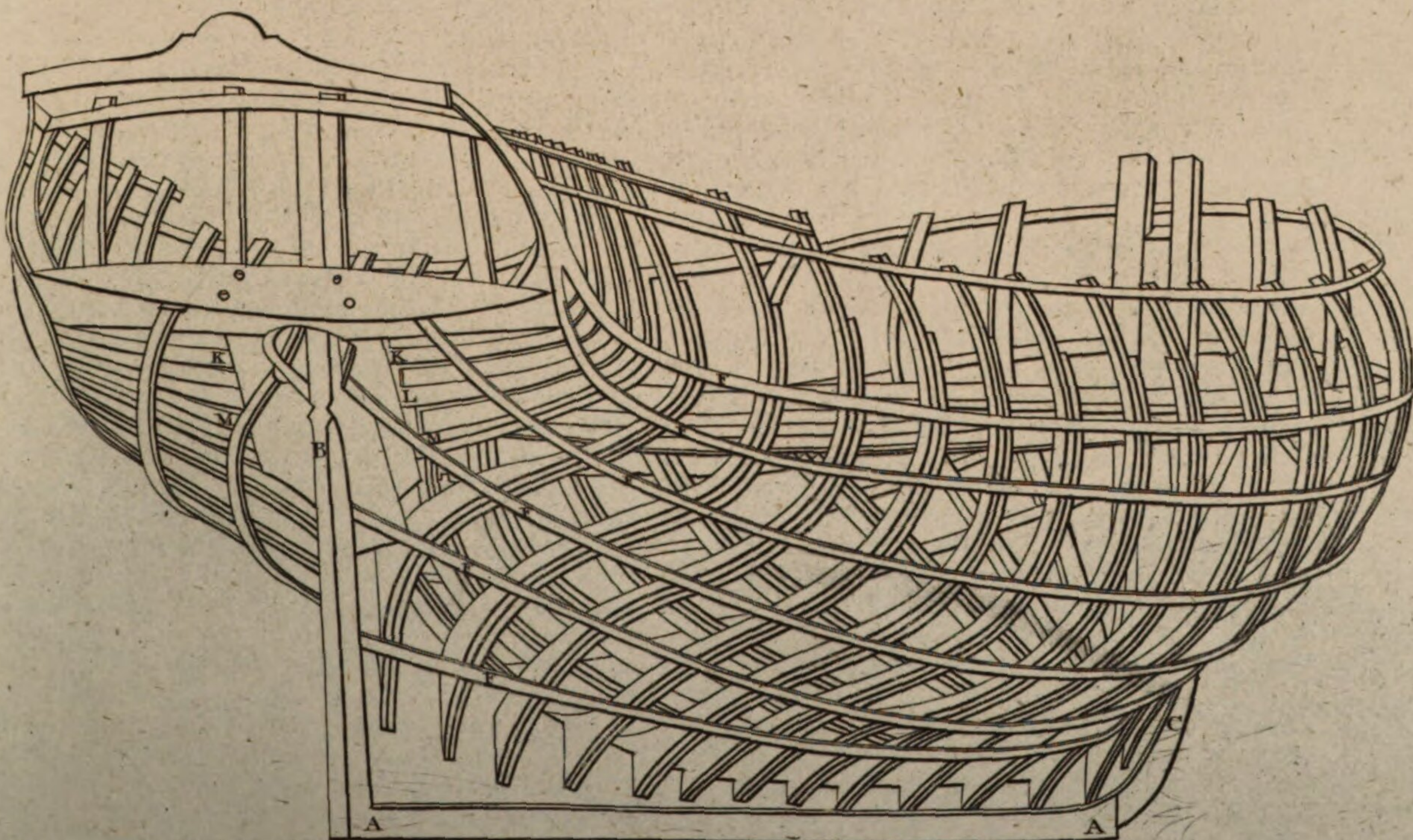


Fig. 2.

FRAMES of a SHIP.



Preliminary Problems.

top-timber line above EL. A curve drawn through these points will form the toptimber line.

This line is more easily drawn by means of a curved or bent ruler, so placed that it may touch the three points F, P, and K.

40
The stem,

PROB. II. To describe the stem:

Let K (fig. 3.) be the upper part of the stem, thro' which draw KS parallel to the keel, and equal to twice KR: Through the termination of the wales on the stem draw TW parallel to QR. Then from the centre S, with the distance SK, describe an arch: Take an extent equal to the nearest distance between the parallels WT, QR; and find the point W, such that one point of the compass being placed there, the other point will just touch the nearest part of the above arch; and from this point as a centre describe an arch until it meets the keel, and the stem will be formed.

41
And post.

PROB. III. To describe the sternpost.

Set off QV (fig. 3.) for the rake of the post: draw VX perpendicular to the keel, and equal to the height of the wing transom, join QX, and it will represent the aft side of the post.

42
Main half breadth line.

PROB. IV. To describe the half breadth line.

Let MN (fig. 4.) be the given length: Make $N\odot$ equal to five-twelfths of MN; draw the line $\odot P$ perpendicular to MN, and equal to the proposed extreme half breadth. Let ME be the round aft of the stern or wing transom; make EO perpendicular to MN, and equal to the given half breadth at the stern, which is generally between two-thirds and three-fourths of the main half breadth; and describe the arch MO, the centre of which is in the middle line. Space the frames (A), A, B, &c. and (1), 1, 2, &c. From the centre $\odot$, with the radius $\odot P$, describe the quadrant PRS; describe also the quadrant PCT. Through the point O draw ORU parallel to MN; divide the straight line RU similar to $M\odot$; and through these points of division draw lines perpendicular to MN, and meeting the arch. Transfer these lines to the correspondent frames each to each, and a curve drawn through the extremities will represent that part of the side contained between the main frame and the stern. Again, thro' Q, the extremity of the foremost frame, draw QV parallel to MN. Or make PV a fourth or third part of PU, according as it is intended to make the ship more or less full towards the bow. Divide VC similar to $\odot C$; through these points draw lines perpendicular to MN, and terminating in the quadrantal arch: Transfer these lines to the corresponding timbers in the fore part, and a curve drawn through the extreme points will limit that part of the ship's side contained between P and Q. Continue the curve to the next timber at X. From Q draw QZ perpendicular to QX; make the angle ZNQ equal to ZQN, and the point Z will be the centre of the arch forming the bow. Remark, if it is proposed that the breadth of the ship at the frames adjacent to the main frame shall be equal to the breadth at the main frame; in this case, the centres of the quadrantal arches will be at the points of intersection of these frames with the line MN; namely at (A) and (1). Also, if the height of the ship at the frames (A) and (1) is to be the same as at dead flat, the quadrantal arches in fig. 3. are to be described from the points of intersection of these frames with the line EL.

These rules, it is evident, are variable at pleasure; and any person acquainted with the first principles of mathematics may apply calculation to find the radii of the several sweeps.

PROB. V. To describe the main frame or dead-flat.

This frame is that which contains the greatest space, and the particular form of each of the other frames depends very much on it. If the ship is intended to carry a great burden in proportion to her principal dimensions, this frame is made very full; but if she is intended to sail fast, it is usually made sharp. Hence arises diversity of opinions respecting its form; each constructor using that which to him appears preferable. In order to save repetition, it is judged proper to explain certain operations which necessarily enter into all the different methods of constructing this frame.

In the plane of the upper side of the keel produced, draw the line AB (fig. 5.) equal to the proposed breadth of the ship; bisect AB in C, and draw AD, CE, and BF, perpendicular to AB. Then, since the two sides of a ship are similar, it is therefore thought sufficient to describe the half of each frame between the main frame and the stern on one side of the middle line CE, and the half of each of those before the main frame on the other side of it. The first half is called the *after-body*, and the other the *fore-body*. The after-body is commonly described on the left side of the middle line; and the fore-body on the right side of it: hence the line AD is called the *side line* of the *after* body, and BF the *side line* of the *fore* body. Make AD and BF each equal to the height of the ship at the main frame. Make AG, BG, and AH, BH, equal to the lower and upper heights of breadth respectively, taken from the sheer plan. Let II be the load water line, or line of floatation when the ship is loaded, and KK the height of the rising line of the floor at this frame. Make CN, CO, each equal to half the length of the floor timber, and N, O, will be the heads of the floor timber, thro' which draw perpendiculars to AB. Make Cm, Em, each equal to half the thickness of the sternpost, and Cn, En, equal to half the thickness of the stern, and join mm, nn.

Method I. *Of describing a main frame.*—From the centre a (fig. 5.), in the lower breadth line, describe the lower breadth sweep Ge; make Nb equal to the proposed radius of the floor sweep, and from the centre b describe the floor sweep Nf. Let the radius of the reconciling sweep be Ag, equal to about the half of AC; then make Ab equal to Nb, and Am equal to Ga. Now from the centre a, with an extent equal to gm, describe an arch, and from the centre b, with the extent gb, describe an arch intersecting the former in c, which will be the centre of the reconciling sweep ef. Join Nm by an inverted curve, the centre of which may be in the line bN produced downwards; or it may be joined by two curves, or by a straight line if there is little rising; and hence the lower part of the main frame will be described.

In order to form the top timber, make Fk equal to such part of the half breadth, agreeable to the proposed round of the side, as one-seventh; join Hk, and make ki equal to about two-thirds of Hk: make the angle Hii equal to iHl; and from the centre l at the distance

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Of the midship frame.44
General precepts for describing it.

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distance lH describe the arch Hi ; and from the centre o , the intersection of li and kF produced, describe the arch ik , and the top timber will be formed.

II. *To describe a main frame of an intermediate capacity, that is, neither too flat nor too sharp.*—Divide the line AX (fig. 6), which limits the head of the floor timber, into three equal parts; and make ab equal to one of them. Divide the line dB , the perpendicular distance between the load water line and the plane of the upper side of the keel, into seven equal parts; and set off one of these parts from d to c , and from c to m . Let GH be the lower deck, join Gm , and produce it to q . Draw the straight line Va , bisect it in n , and from the points n, a , describe arches with the radius Gq intersecting each other in P , which will be the centre of the arch na . The centre of the arch Vn is found by describing arches downwards with the same radius.

With an extent equal to once and a half of Be , describe arches from the points b, e , intersecting each other in A , and from this point as a centre describe the arch eb ; make al equal to dm , and join Am, Al . Then, in order to reconcile two arches so as to make a fair curve, the centres of these arches and of the points of contact must be in the same straight line. Hence the point k will be the centre of the arch dm , and o the centre of the arch al . The arch lm is described from the centre A .

To form the top timber, set back the tenth part of the half breadth from K to S upon the line of the second deck; then with an extent equal to two-thirds of the whole breadth describe an arch through the points S and H , the upper height of breadth. Again, make MI equal to the fifth part of the half breadth; describe an arch of a circle through the points S and T , taking the diagonal GB for the radius. As this arch is inverted in respect of the arch dS , the centre will be without the figure. Hence one-half of the main frame is formed, and the other half is described by similar operations.

Remark. This frame may be made more or less full by altering the several radii.

III. *To describe a main frame of a circular form.*—Let the several lines be drawn as before: Then make Oa (fig. 7.) equal to the half breadth Ga , and from the centre a , with the radius Ga , describe the arch $bGcO$. Let d be the head of the floor-timber, and dx the rising. Assume the point f in the arch, according to the proposed round of the second futtock, and describe the arch df ; the centre of which may be found as in the former method: from the centre a , with the distance ad , describe the arch dco ; make dc equal to one-third of dO , and the angle dcb equal to cdh , and from the centre b describe the arch dc . The inverted arch co may be described as before.

IV. *To describe a very full main frame.*—Let the vertical and horizontal lines be drawn as before: let b , fig. 8. be the floor-head, and bx the rising. Divide Gc into two equal parts in the point d , and upon cd describe the square $dbac$, in which inscribe the quadrant dca . Divide the line bd into any number of equal parts in the points O, N, M, L , and draw the lines Lm, Me, Nn, Ob , perpendicular to db . Divide the line GC , the depth of the hold, the rising being deducted, into the same number of equal parts in the points E, F, I, K , and make the lines Ep, Fq, Ir, Ks , in the frame,

equal to the lines Ob, Nn, Me, Lm , in the square, each to each respectively; and through the points G, p, q, r, s, b , describe a curve. The remaining part of the frame may be described by the preceding methods.

V. *To describe the main frame of a ship intended to be a fast sailer.*—The principal lines being drawn as before, let the length of the floor-timber be equal to half the breadth of the ship, and the rising one-fifth or one-sixth of the whole length of the floor-timber, which lay off from x to E , fig. 9. Through the point E draw the line Tx perpendicular to GC , and dE perpendicular to AG . Join Td , which bisect in B , and draw BF perpendicular thereto, and meeting CG produced in F , from the centre F , at the distance FT , describe the semicircle TdD . Divide GT into any number of parts, VW , &c. and bisect the intervals DV, DW , &c. in the points X, Z , &c.; then, from the centre X , with the extent XV , describe the semicircle DbV , intersecting AG in b . Let VP be drawn perpendicular to GT , and bP perpendicular to AG , and the point of intersection P will be one point through which the curve is to pass. In like manner proceed for the others, and a curve drawn through all the points of intersection will be part of the curve of the main frame. The remaining part of the curve from E to Y will be composed of two arches, the one to reconcile with the former part of the curve at E , and the other to pass through the point Y , the centre of which may be found by any of the preceding methods. In order to find the centre of that which joins with the curve at E , make TR equal to the half of GD , and join ER , in which a proper centre for this arch may be easily found.

The portion Gbe of the curve is a parabola, whose vertex is G and parameter GD .

For $GD : Gb :: Gb : GV$ by construction.

Hence $DG \times GV = Gb^2$, which is the equation for a parabola.

VI. *To describe a main frame of a middling capacity.*—Let the length of the floor timber be equal to one-half of the breadth of the ship. Make Od , fig. 10. equal to one-fourth of the length of the floor timber, and draw the perpendicular dc equal to the rising, and divide it into two equal parts in the point e . Describe an arch through e , and the extremity a of the floor timber, the radius being equal to the half breadth, or more or less according to the proposed round of the floor head.—Then with the radius Ol , half the length of the floor timber, describe the arch ey .

Draw lm perpendicular to OA : bisect An in p , and draw the perpendicular pq . From the middle of Ap draw the perpendicular rs , and from the middle of Ar draw the perpendicular tu . Make nz, pg , each equal to ln : make the distances py, rb , each equal to ag ; rF, tE , each equal to ab ; and tx equal to aE . Then a curve drawn through the points a, z, y, F, x, T , will form the under part of the midship frame.

We shall finish these methods of describing the main frame of a ship with the following remark from M. Vial du Clairbois †. “It seems (says he) that they have affected to avoid straight lines in naval architecture; yet, geometrically speaking, it appears that a main frame formed of straight lines will have both the advantage and simplicity over others.” To illustrate this, draw the straight line MN (fig. 9.) in such a manner that the mixtilineal space Mad may be equal to the mix-

† *Architecture Navale*, p. 22.

Plate
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Plate CCCCIV.

Fig. 3.

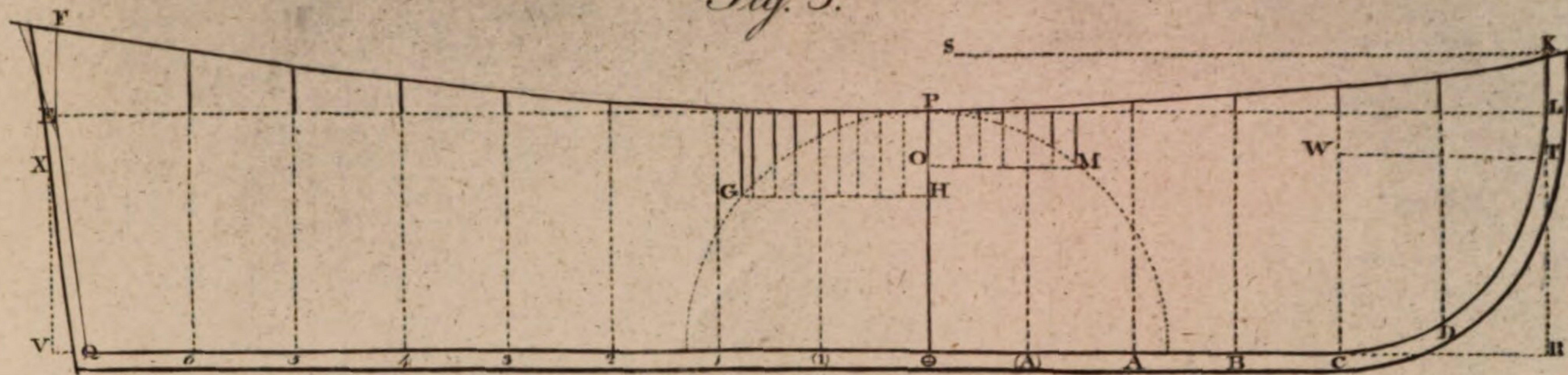


Fig. 4.

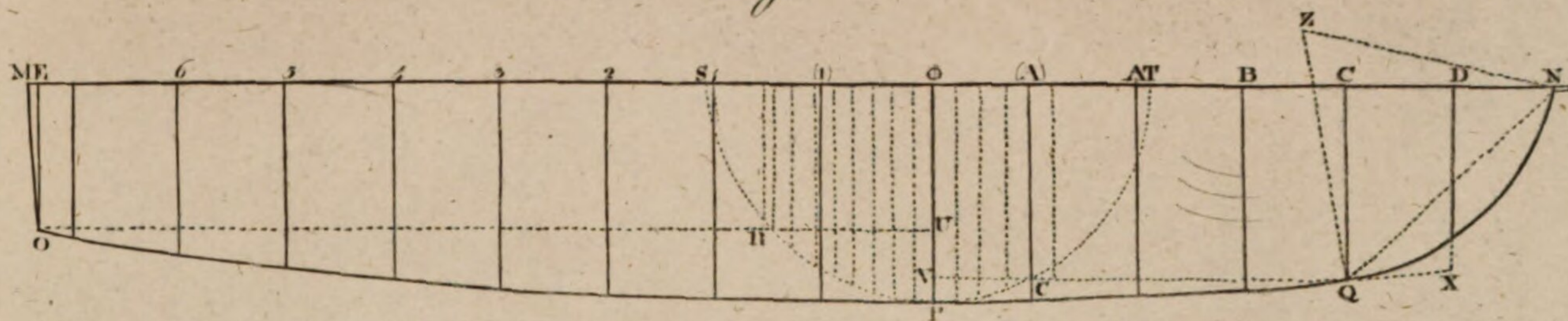


Fig. 5.

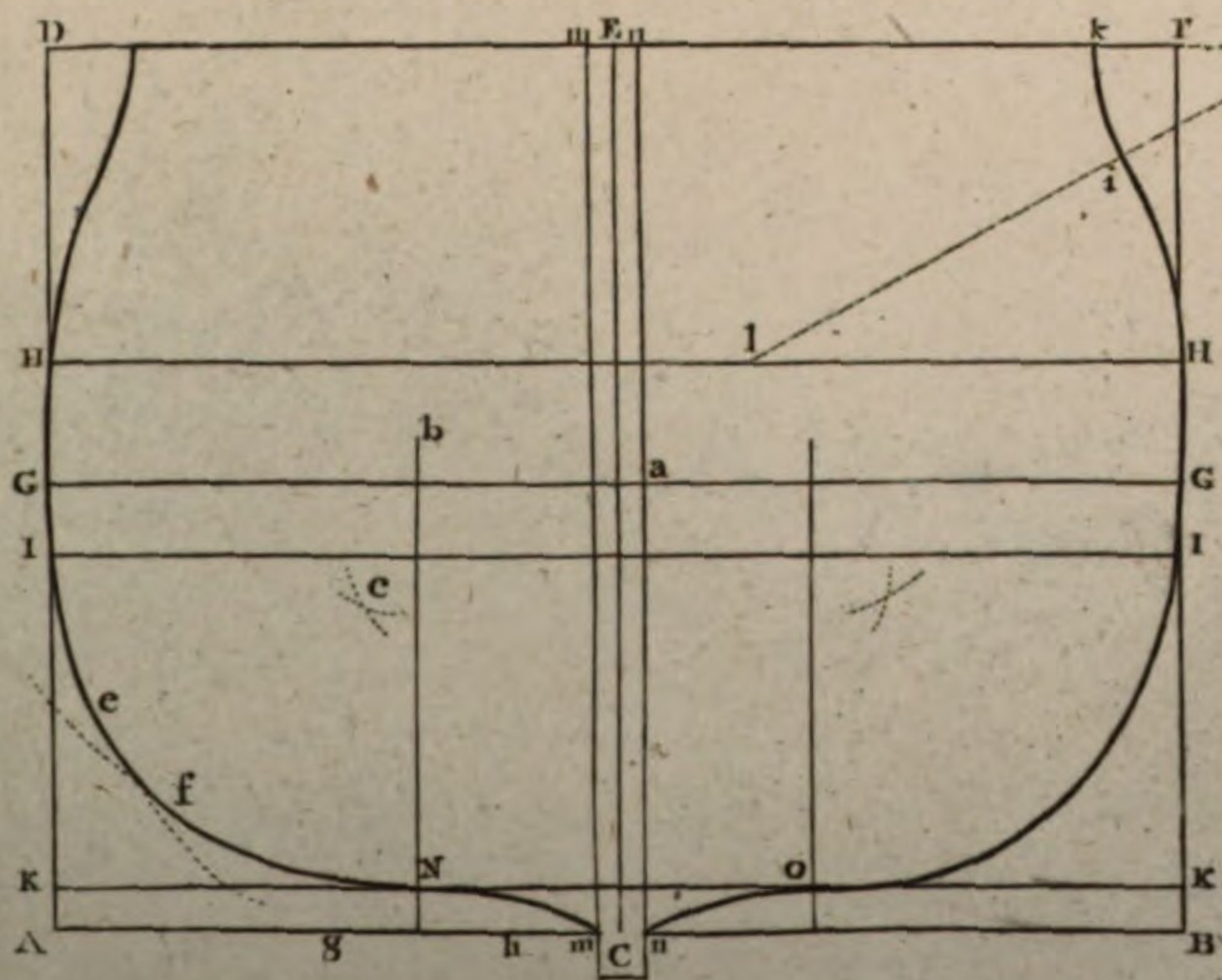
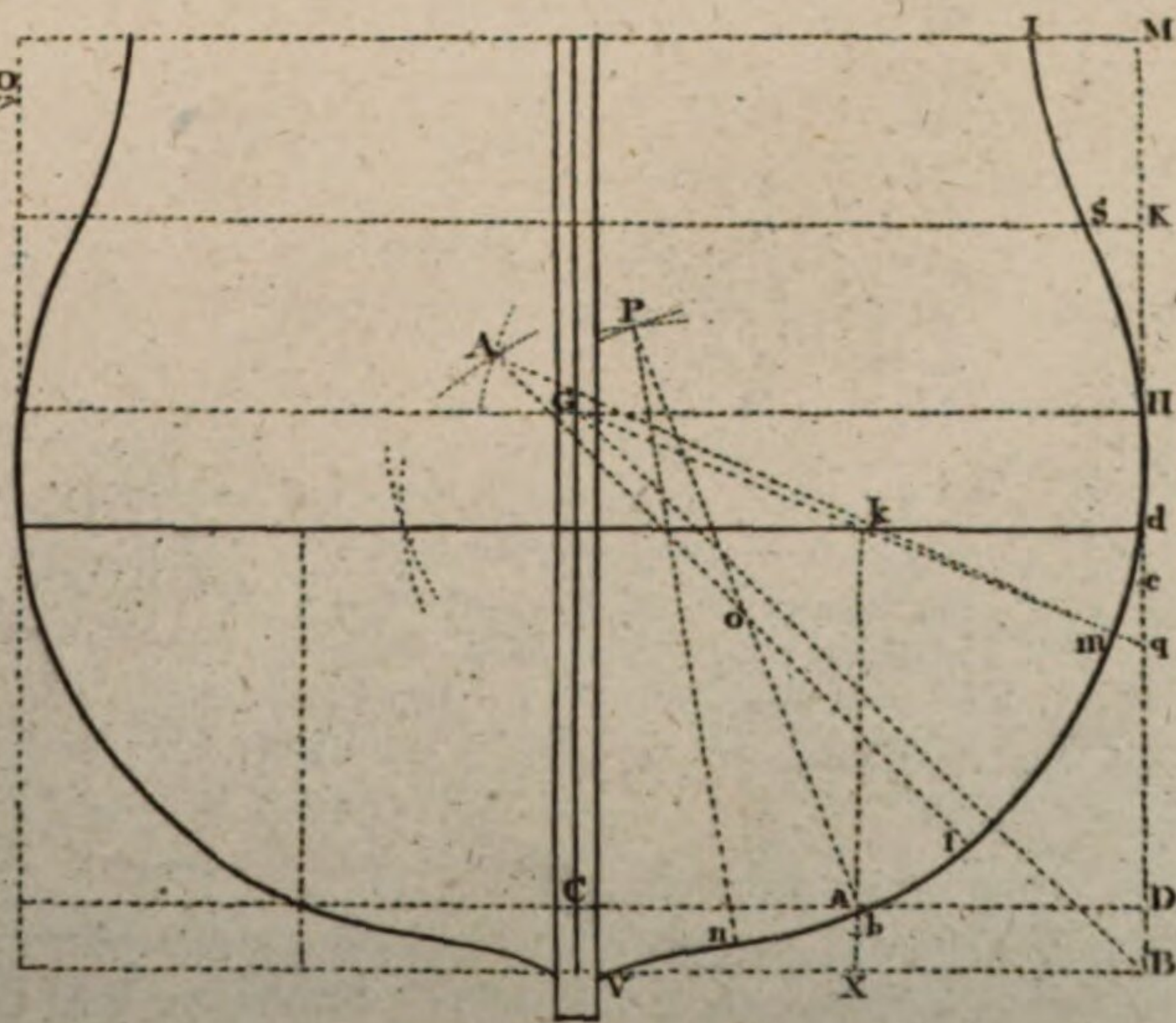


Fig. 6.



A. Bell Pin. Wal. Sculptor fecit.

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Traité du Navire de Bouguer, p. 601.

mixtilineal space DNY . Hence the capacity of the main frame formed by the straight lines MN , NY will be equal to that of the frame formed by the curve $MaDY$; and the frame formed by the straight lines will for the most part be always more susceptible of receiving a bow that will easily divide the fluid. It is also evident, that the cargo or ballast, being lower in the frame formed of straight lines than in the other, it will therefore be more advantageously placed, and will enable the ship to carry more sail (c); so that having a bow equally well or better formed, she will sail faster.

PROB. VI. To describe a stern having a square tuck.

Let AB (fig. 11.) be the middle line of the post, and let CD be drawn parallel thereto at a distance equal to half the thickness of the post. Make CE equal to the height of the lower part of the fashion-piece above the keel: make CT equal to the height of the extremity G of the transom above the plane of the keel produced, and CH equal to the height of the transom on the post, HT being equal to above one-ninth or one-tenth of GT , and describe the arch GH , the centre of which will be in BA produced: make EK equal to five-twelfths of ET : through K draw KL perpendicular to CD , and equal to EK ; and with an extent equal to EL describe the arch EL . Make GI equal to the half of ET , and from the centre I describe the arch GM , and draw the reconciling curve ML .—Let the curve of the fashion-piece be produced upwards to the point representing the upper height of breadth, as at O . Make ON equal to the height of the top-timber, and BN equal to the half breadth at that place, and join ON . Through N and the upper part of the counter, let arches be described parallel to GH . The tafferel, windows, and remaining part of the stern, may be finished agreeable to the fancy of the artist.

In fig. 12. the projection of the stern on the plane of elevation is laid down, the method of doing which is obvious from inspection.

If the transom is to round aft, then since the fashion pieces are always sided straight, their planes will intersect the sheer and floor planes in a straight line. Let Gg (fig. 14.) be the intersection of the plane of the fashion-piece with the floor plane. From the point g draw gW perpendicular to gM : make yk equal to the height of the tuck, and Wk being joined will be the intersection of the plane of the fashion-piece with the sheer plane. Let the water lines in the sheer plane produced meet the line kW in the points a, s, b , and draw the perpendiculars aa', ss', bb' . From the points a, s, b (fig. 14.) draw lines parallel to Gg to intersect each corresponding water line in the floor plane in the points $3, 2, 1$. From the points $G, 3, 2, 1$ in the floor plane draw lines perpendicular to gM , intersecting the water lines (fig. 13.) in the points $G, 3, 2, 1$; and through these points describe the curve $G321k$; and $WG321k$ will be the projection of the plane of the fashion-piece on the sheer plane. Through the points $G, 3, 2, 1$ (fig. 13.) draw the lines $GF, 3A, 2S, 1H$, perpendicular to Wk ; and make the lines $WF, aA, sS,$

bH , equal to the lines $gG, a3, s2, b1$ (fig. 14.) respectively, and $WFASHk$ will be the true form of the plane of the aft side of the fashion-piece. When it is in its proper position, the line WF will be in the same plane with the sheer line; the line aA in the same plane with the water line $a3$; the line sS in the same plane with the water line $s2$; and the line bH in the same plane with the water line $b1$. If lines be drawn from the several points of intersection of the water lines with the rabbet of the port (fig. 13), perpendicular to gM , and curved lines being drawn from these points to $G, 3, 2, 1$ (fig. 14.) respectively, will give the form and dimensions of the tuck at the several water lines.

PROB. VII. To bevel the fashion-piece of a square tuck by water-lines.

As the fashion-piece both rakes and cants, the planes of the water-lines will therefore intersect it higher on the aft than on the fore-side: but before the heights on the fore-side can be found, the breadth of the timber must be determined; which let be bn (fig. 15.) Then, as it cants, the breadth in the direction of the water-line will exceed the true breadth. In order to find the true breadth, form the aft-side of the fashion-piece as directed in the last problem.

Let $t5$ (fig. 13.) be the aft-side of the rabbet on the outside of the post, WM the common section of the plan of the fashion-piece and the sheer-plan. Before this last line can be determined, the several water-lines 1, 2, 3, 4, and 5, must be drawn parallel to the keel, which may represent so many transoms.—Let these water lines be formed and ended at the aft-side of the rabbet, as in fig. 14. where the rounds aft of the several transoms are described, limiting the curves of the water lines. Now the line WM must rake so as to leave room for half the thickness of the post, at the tuck: in order to which, produce Wg to r ; make rg half the thickness of the post; through r draw a line parallel to gM to intersect gG in b : then with the radius rb , from r the point of the tuck as a centre, describe an arch, and draw the line WM just to touch the back of that arch.

The line WM being drawn, let any point k in it be assumed at pleasure: from k draw ky perpendicular to gM : through y draw yf (fig. 14.) parallel to gG , intersecting the line Mf drawn perpendicular to gM in the point f . From M draw Mi perpendicular to yf , and from y draw yn perpendicular to WM (fig. 13.) Make Mn (fig. 15.) equal to Mi (fig. 14.); then MI (fig. 15.) being equal to yk (fig. 13.), join ni , and the angle inM will be the bevelling to the horizontal plane. Again, make Mz, Mj (fig. 15.) respectively equal to yn (fig. 13.) and Mf (fig. 14.), and join zf ; and the angle Mzf will be the bevelling to the sheer plane.

The bevelling being now found, draw the line ab (fig. 15.) parallel to zn, az or bn being the scantling of the timber. Then nx will be the breadth of the timber on the horizontal plane, and ze its breadth on the sheer plane, and ac what it is within a square.

Now as the lines $gG, a3, s2, b1, yi$, represent the

I

(c) It is not a general rule, that lowering the cargo of a ship augments her stability. This is demonstrated by the Chevalier de Borda, in a work published by M. de Goimpy upon this subject. See also *L'Architecture Navale* par M. Vial du Clairbois, p. 23.

Preliminary Problems.

the aft side of the fashion-piece on the horizontal plane (fig. 14.), dotted lines may be drawn parallel to them to represent the fore-side, making nx (fig. 15.) the perpendicular distance between the lines representing fore and aft sides of the fashion-piece. By these lines form the fore-side of the fashion-piece in the same manner as the aft-side was formed. The water lines on the fore-side of the plane of the fashion piece must, however, be first drawn in fig. 13. thus: Draw the lines eb, cd parallel to WM , and whose perpendicular distances therefrom may be equal to ac and xc (fig. 15.) respectively. Draw a line parallel to WF (fig. 13.) through the point where the line cd intersects the fifth water line. Draw a line parallel to aA through the point where the fourth water line intersects the line cd ; in like manner proceed with the other water lines. The fore-side of the fashion-piece is now to be described by means of these new water lines, observing that the distances in the floor plane must be set off from the line eb , and not from WM , as in the former case; and a curve described through the points 5, 3, 2, 1, where these distances reach to, will represent the fore-side of the fashion-piece.

The nearest distance between the points 5, 3, 2, 1 and the aft side of the fashion-piece is what the bevelling is beyond the square when both stock and tongue of the bevel are perpendicular to the timber. Make Mp (fig. 16.) equal to the breadth of the timber, and $M5$ equal to the perpendicular distance of the point 5 (fig. 13.) from the aft side of the fashion-piece, and join $5p$. In like manner proceed with the others, and the bevellings at these parts will be obtained; but, in order to avoid confusion, the perpendiculars 4, 3, 2, (fig. 13.), instead of being laid off from M (fig. 16.), were set off from points as far below M as the other extremities of the lines drawn from these points are below the point p .

PROB. VIII. To describe the transoms of a round poop.

The transoms are fastened to the stern-post in the same manner that the floor-timbers are fastened to the keel, and have a rising called the *flight* similar to the rising of the floor-timbers. The upper transom is called the *wing* transom, the next the *deck* transom, and the others the *first*, *second*, and *third* transoms in order. The wing transom has a round aft and a round up: the round up of the deck transom is the same as that of the beams.

Plate

ccccviii

The fashion-piece of a square tuck must be first described, together with the three adjacent frames, by the method to be explained. The part of the stern above the wing transom is to be described in the same manner as before, and may therefore be omitted in this place. The part below the keel of the fashion-piece is also the same in both cases. Let fig. 17. represent the fashion-piece of a square tuck, and the three adjoining frames. Divide the interval AB into four equal parts in the points C, D, E , and draw the perpendiculars AF, CG, DH, EI , and BK : these will be portions of water lines answering to the several transoms.

Let these water lines be described on the floor plan (fig. 18.), in which ABC represents the wing transom. Describe the arch bC to reconcile the curves $A b$ and CE . Let LFG be the water-line answering to the lower part of the fashion-piece, the distance be-

tween the points L and A being equal to the excess of the projection of the point A beyond that of B (fig. 20.). Draw CK (fig. 18.) perpendicular to AM , and make the angle KCM equal to about 25 degrees, and CN will be the projection of the fashion-piece on the floor-plane. Make AB (fig. 19.) equal to AB (fig. 17.) Divide it into four equal parts, and draw the perpendiculars AF, CH, DI, EK , and BG . Make AF equal to CM , and BG equal to MN , and draw the curve $FHIKG$, having a less curvature than the fashion-piece of the square tuck $scpgn$. Make MO, MP, MQ , equal to CH, DI , and EK respectively. Divide AL (fig. 18.) into four equal parts, and to these points of division draw curves through the points O, P, Q , so as to partake partly of the curvature of $A b C E$ and partly of that of LNF , but most of the curvature of that to which the proposed curve is nearest; and hence the form of the several transoms will be obtained.

In order to represent the curve of the fashion-piece on the plane of projection, make the lines AF, CG, DH, EI , and BK (fig. 17.) respectively equal to the perpendicular distance of the points C, O, P, Q , and N . From the line AN (fig. 18.), and through the extremities of these lines, draw the curve $FGHIK$.

It remains to lay down the projection of the fashion-piece on the plane of elevation. In order to which, divide the line AB , fig. 20. (equal to AB , fig. 17.) into four equal parts, and through the points of division draw the perpendiculars AF, CG, DH, EI , and BK ; make AF (fig. 20.) equal to the perpendicular distance of the point C from the line BL (fig. 18.) In like manner make the lines CG, DH, EI , and BK (fig. 20.) respectively equal to the perpendicular distances of the points O, P, Q , and N , from the line BL (fig. 18.); and a curve drawn through these points will be the projection of the fashion-piece on the plane of elevation.

PROB. IX. To describe the intermediate frames in the after body.

For this purpose the midship and stern frames must be drawn in the plane of projection. As the main frame contains the greatest capacity, and the stern frame is that having the least, it hence follows that the form and dimensions of the intermediate frames will be between these; each frame, however, partaking most of the form of that to which it is nearest.

Let $ACDE$ (fig. 21.) be the main frame on the plane of projection, and FGH the stern frame; and let there be any convenient number of intermediate frames, as *nine*. Draw the floor ribband CF , and the breadth ribband GD . Divide the curves CD, FG , each into the same number of equal parts, as three, in the points $K, M; L, N$; and draw the second and third ribbands KL, MN . In order to divide these ribbands so as to form fair curves in different sections, various methods have been proposed. One of the best of these, being that which is chiefly employed by the French constructors, is by means of an equilateral triangle, which is constructed as follows.

Draw the line ME (fig. 22.), limited at M , but produced towards E : take $M1$ equal to any convenient extent; make 1, 2 equal to thrice that extent, 2, 3 equal to five times, and 3, 4 equal to seven times the above extent; and continue this division to E , always increasing by two, until there be as many points as there are

Fig. 7.

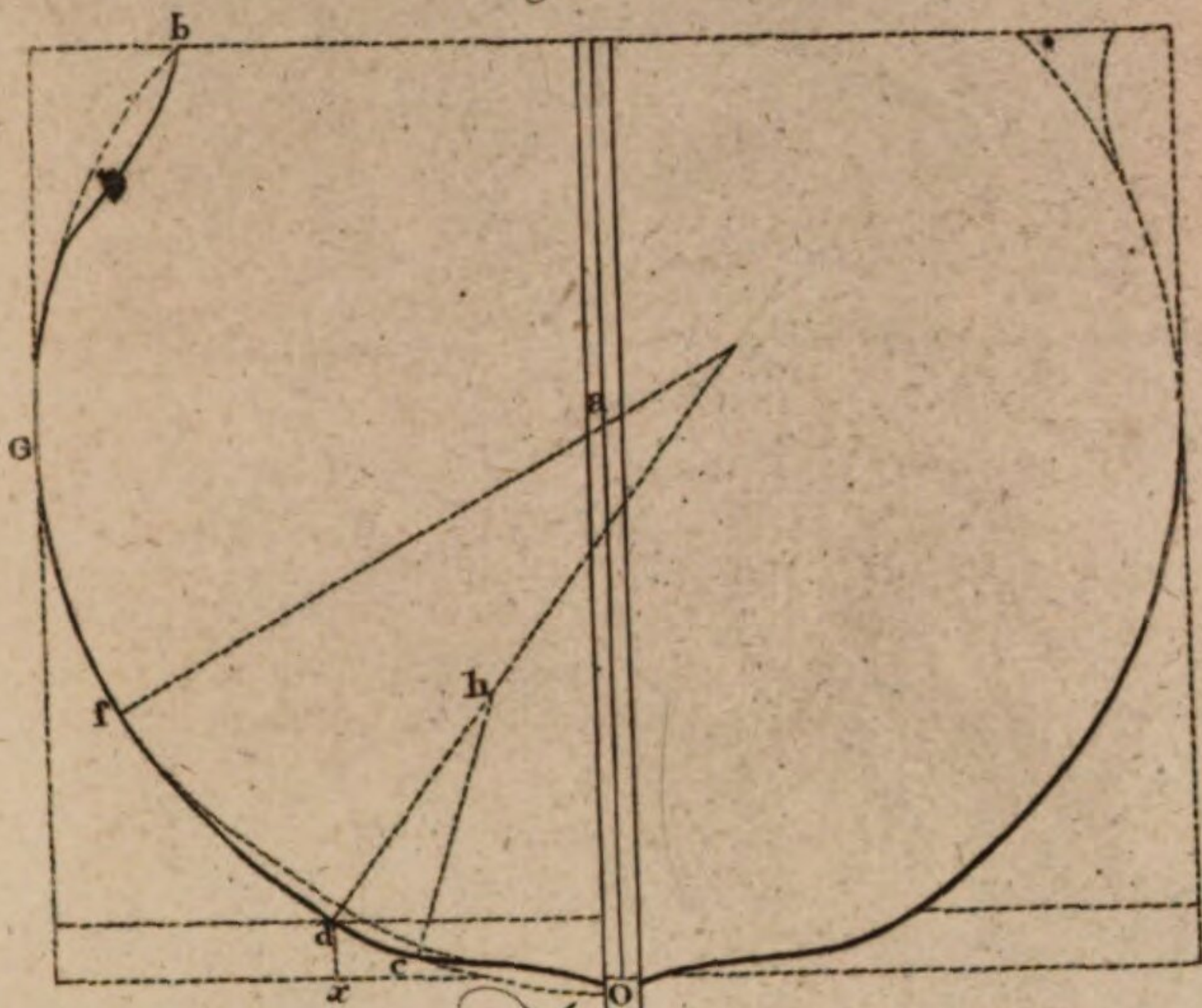


Fig. 8.

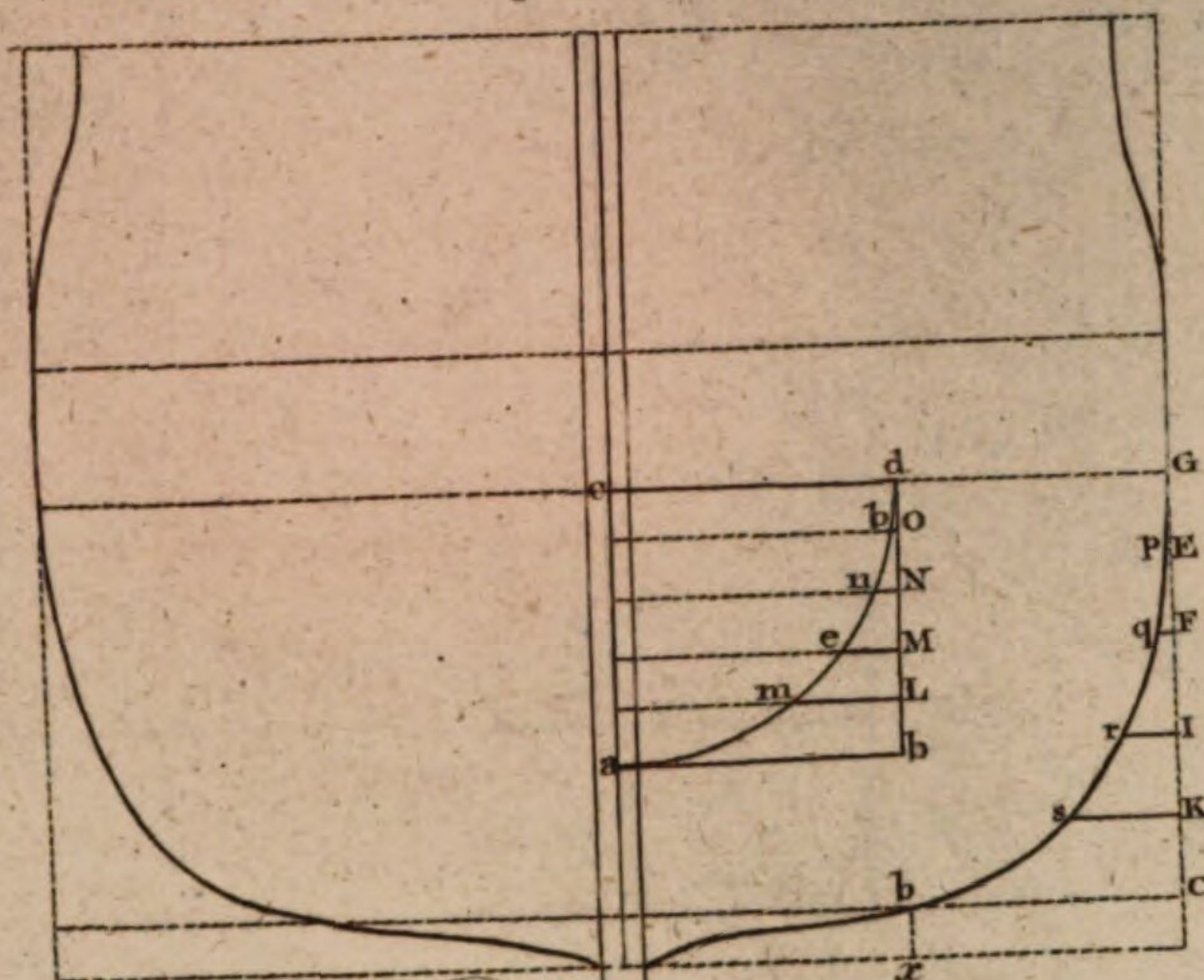


Fig. 9.

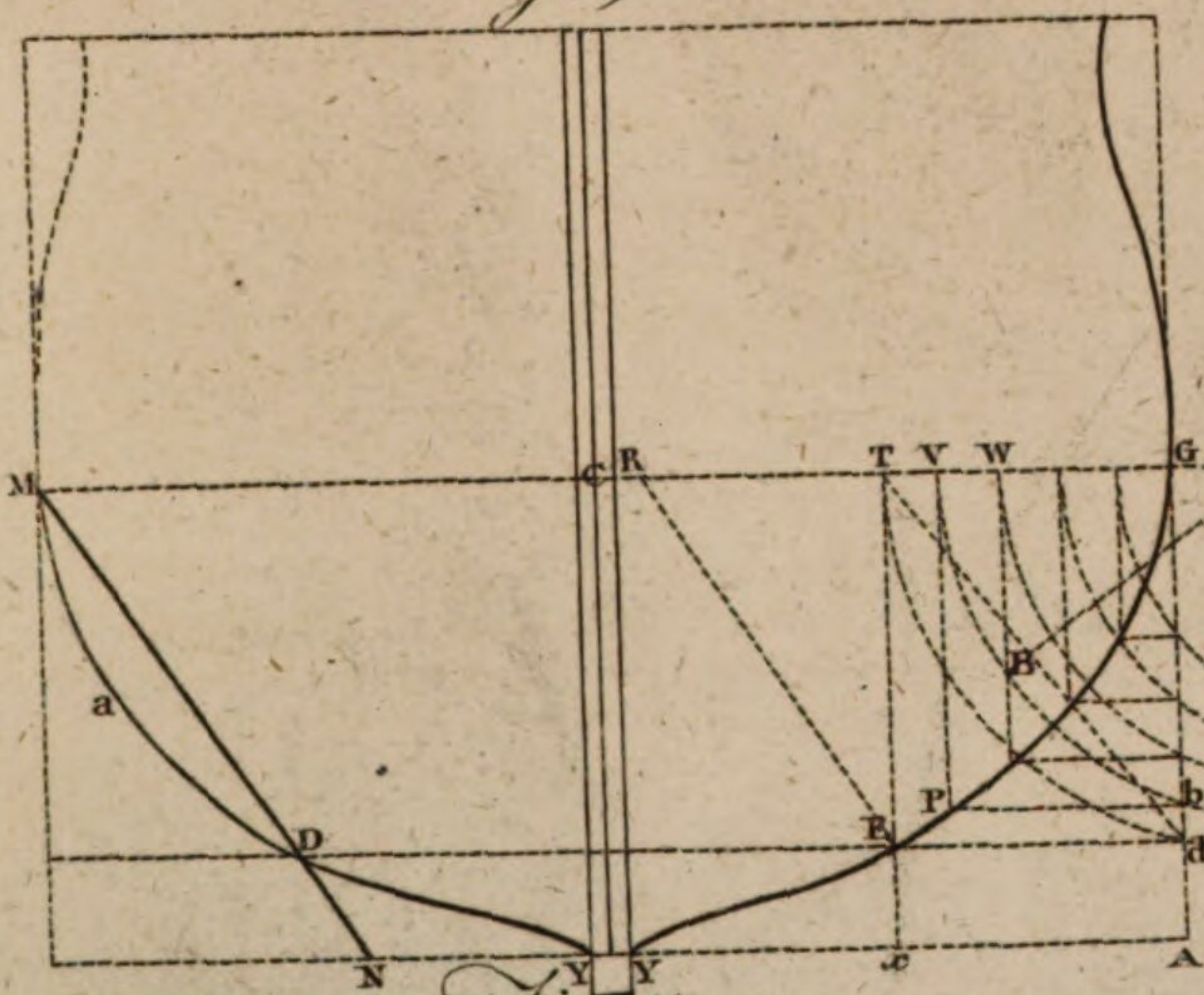


Fig. 10.

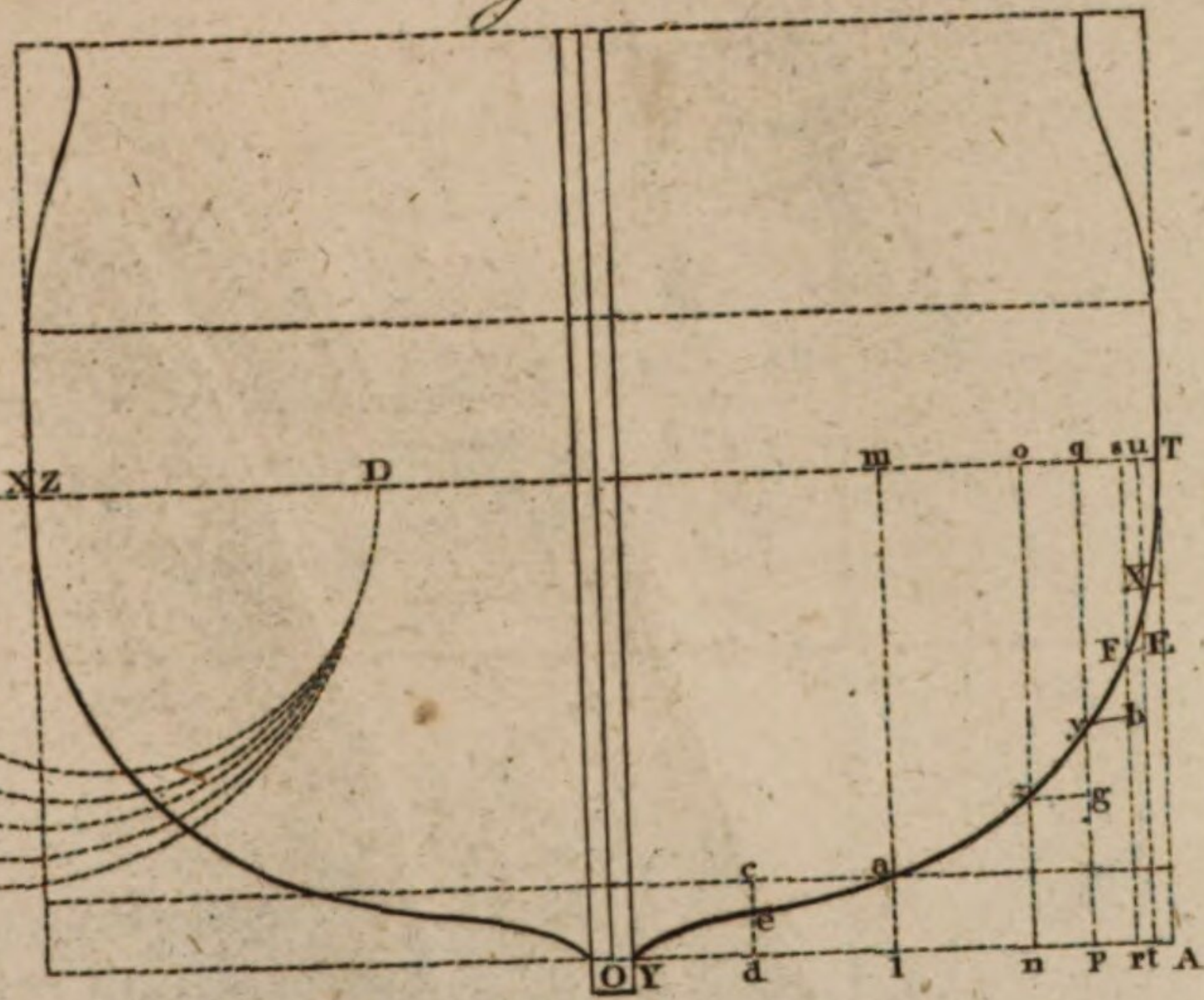


Fig. 11.

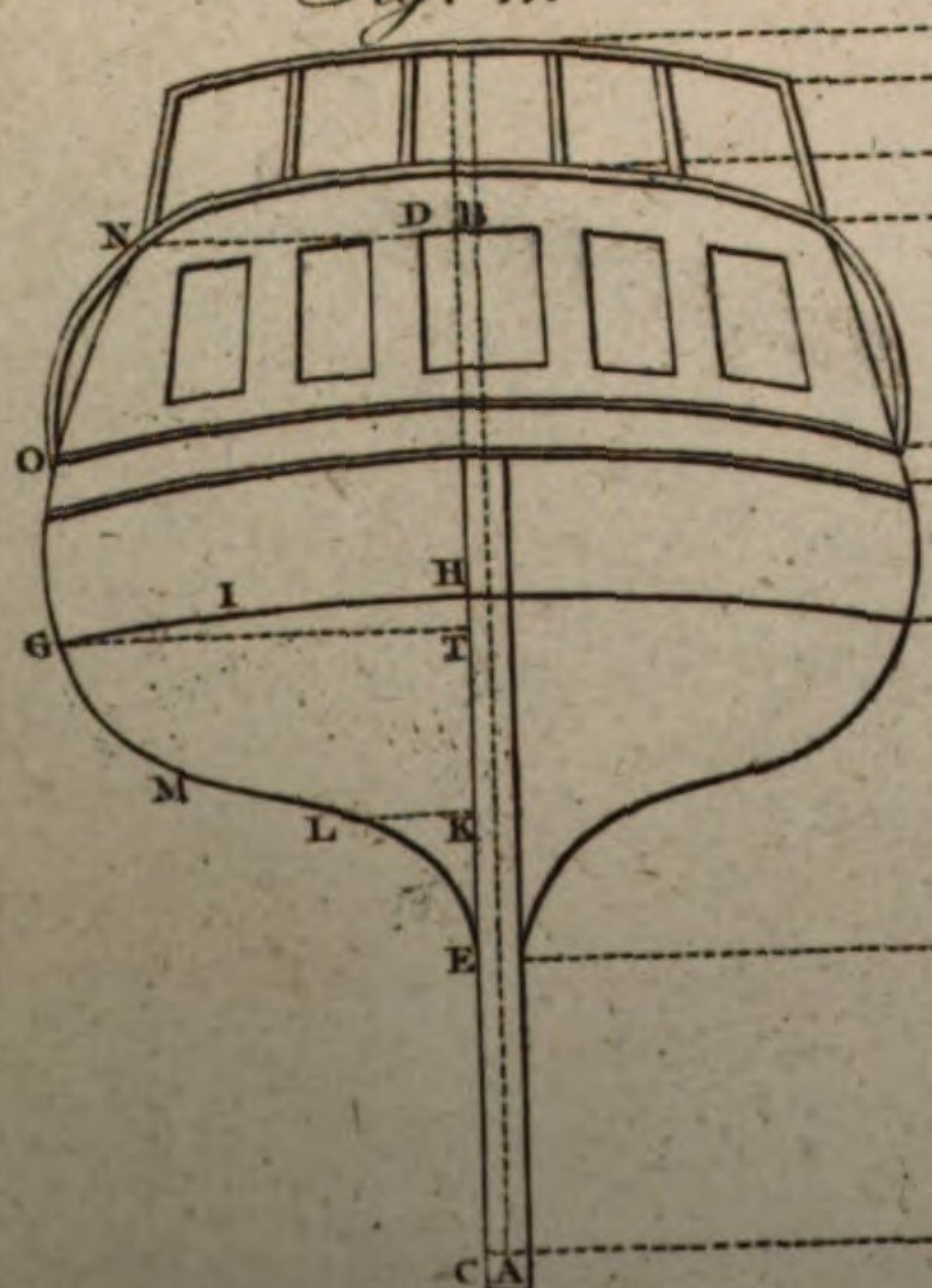
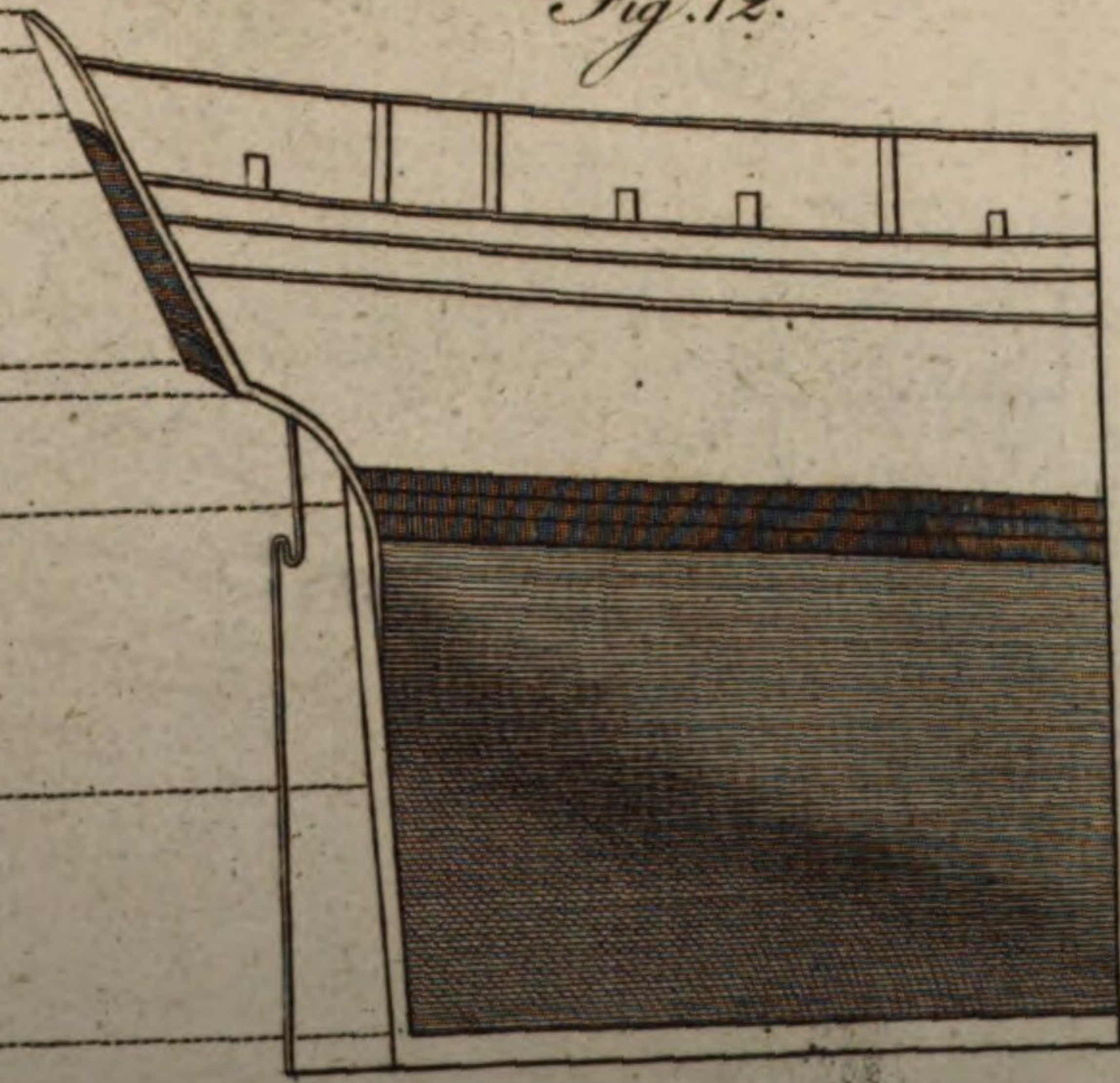
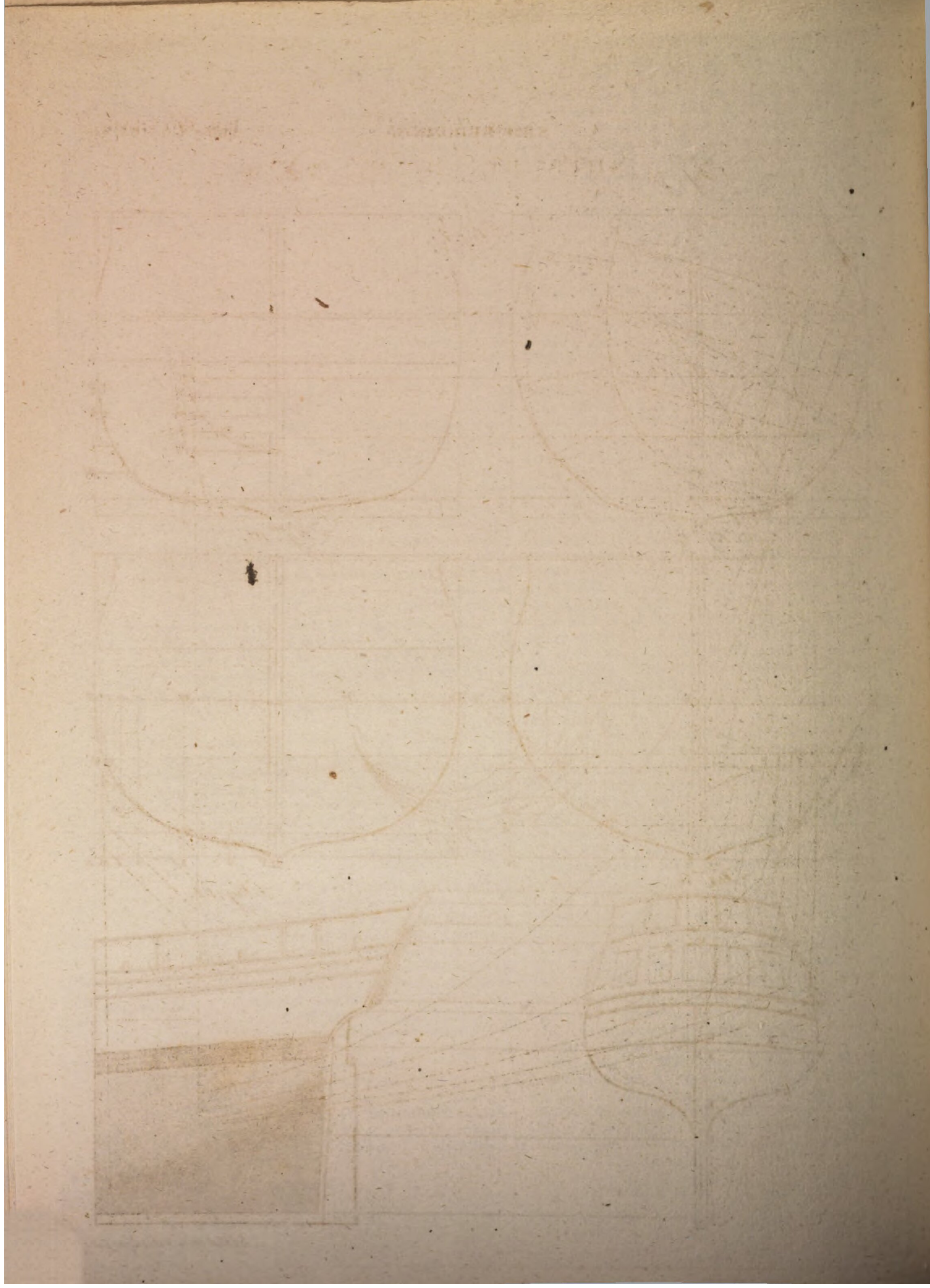


Fig. 12.





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Fig. 13.

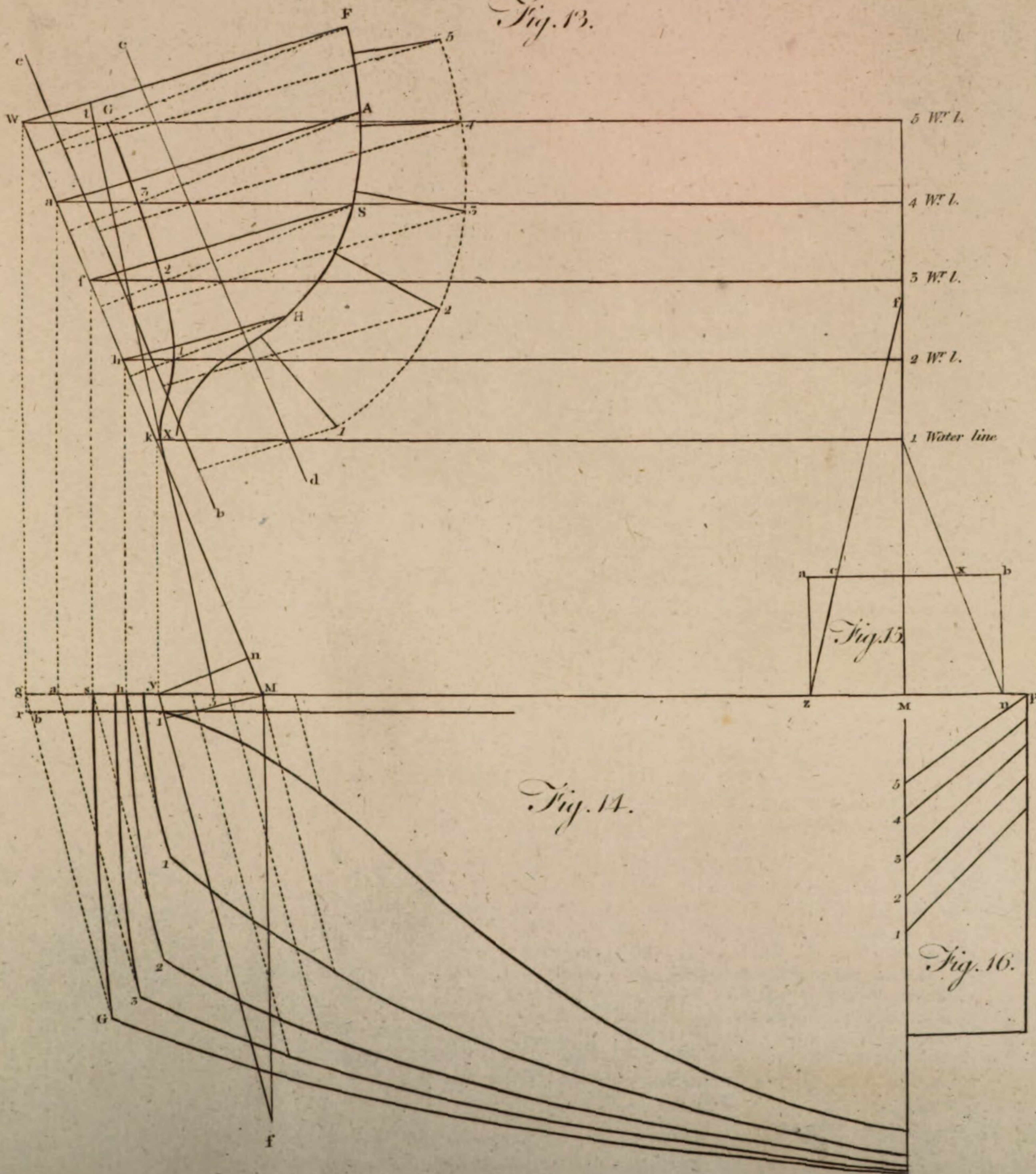


Fig. 15.

Fig. 14.

Fig. 16.

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are frames, including the main and stern frames. Upon ME describe the equilateral triangle MSE, and draw lines from the vertex S to each point of division; then the line SM will be that answering to the main frame, and SE that corresponding to the post; and the other lines will be those answering to the intermediate frames in order.

Let fig. 23. be the projection of part of the stern on the plane of elevation, together with the eighth and ninth frames. From the points I, N, G, (fig. 21.) draw the lines LO, NP, GQ, perpendicular to the plane of the upper edge of the keel. Make AB (fig. 23.) equal to AF (fig. 21.), and draw the water line BCD. Draw the line BC (fig. 22.) so that it may be parallel to the base of the triangle, and equal to CD (fig. 23.), which produce indefinitely towards H. Make BD equal to BC (fig. 23.), and draw the dotted line SD (fig. 22.) The ribband FC (fig. 21.) is to be applied to the triangle, so that it may be parallel to the base, and contained between the line MS and the dotted line SD. Let *cf* represent this line; then transfer the several divisions from *cf* to the ribband CF (fig. 21.), and number them accordingly. Again, make EF (fig. 23.) equal to LO (fig. 21.), and draw the water line FGH; make BF (fig. 22.) equal to FG (fig. 23.), and draw the dotted line SF; apply the second ribband LK to the triangle, so that the extremity K may be on the line SM, and the other extremity L on the dotted line SF, and making with SM an angle of about $62\frac{1}{2}$ degrees. Let *kl* be this line, and transfer the divisions from it to the ribband KL. In like manner make IK (fig. 23.) equal to NP (fig. 21.), and draw the water line KLM. Make BG (fig. 22.) equal to KL (fig. 23.), and draw the dotted line SG; then the ribband MN is to be applied to the triangle in such a manner that its extremities M and N may be upon the lines SM, SG respectively, and that it may make an angle of about 68 degrees with the line SM; and the divisions are to be transferred from it to the ribband MN. The same process is to be followed to divide the other ribbands, observing to apply the fourth ribband to the triangle, so that it may make an angle of 86 degrees with the line SM; the fifth ribband to make an angle of 65 degrees, and the sixth an angle of 60 degrees with the line SM.

The quantities of these angles are, however, far from being precisely fixed. Some constructors, in applying the ribbands to the triangle, make them all parallel to its base; and others vary the measures of these angles according to fancy. It may also be remarked, that a different method of dividing the base of the triangle is used by some. It is certainly proper to try different methods; and that is to be preferred which best answers the intended purpose.

Beside the frames already mentioned, there are other two laid down by some constructors in the several plans, called *balance frames*. The after balance frame is placed at one fourth of the length of the ship before the stern-post; and the other, commonly called the *loof frame*, at one fourth of the ship's length aft of a perpendicular to

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the keel from the rabbet of the stem. Let the dotted line at X, between the fifth and sixth frames, (fig. 23.) be the place of the after balance frame in the plane of elevation. Then, in order to lay down this frame in the plane of projection, its representation must be previously drawn in the triangle. To accomplish this, draw the line SV (fig. 22.) so that the interval SV may have the same ratio to 5 6 (fig. 22.) that 5 X has to 5 6 (fig. 23.) (D). Then the several points in the ribbands in the plane of projection answering to this frame are to be found by means of the triangle in the same manner as before.

The loof frame is nearly of the same dimensions as the after balance frame, or rather of a little greater capacity, in order that the centre of gravity of that part of the ship may be nearly in the plane of the midship frame. Hence the loof frame may be easily drawn in the plane of projection, and hence also the other frames in the fore body may be readily described.

PROB. X. To describe the frames in the fore body.

Draw the middle line of the stem AB (fig. 24.); make AC, BD each equal to half the thickness of the stem, and draw the line CD; describe also one half of the main frame CEFGLH. Let *eE*, *fF*, *gG*, *hH*, be water lines at the heights of the ribbands on the main frame; also let *a* be the termination of the floor ribband, and *b* that of the breadth ribband on the stem. Divide the interval *ab* into three equal parts in the points *c*, *d*, and draw the ribbands *aE*, *cF*, *dG*, and *bH*. Make *ei*, *fk*, *gl*, *bm* (fig. 24.) equal to *ei*, *fk*, *gl*, *bm* (fig. 21.) respectively, and draw the curve *Ciklm*, which will be the projection of the loof frame. Or since it is necessary that the capacity of the loof frame should be a little greater than that of the after balance frame, each of the above lines may be increased by a proportional part of itself, as one-tenth or one-twentieth, as may be judged proper.

Construct the triangle (fig. 25.) in the same manner as fig. 22. only observing, that as there are fewer frames in the fore than in the after body, its base will therefore be divided into fewer parts. Let there be eight frames in the fore body, then there will be eight divisions in the base of the triangle beside the extremes.

Let fig. 26. represent the stem and part of the fore-body in the plane of elevation, and let O be the place of the loof frame. Divide the interval 4, 5 (fig. 25.) so that 4, 5 may be to 4 Z as 4, 5 to 4, O (fig. 26.), and draw the dotted line SZ, which will be the line denoting the loof frame in the triangle.

Draw the lines AB, CD, EF, GH (fig. 26.) parallel to the keel, and whose perpendicular distances therefrom may be equal to Ca, Cc, Cd, Cb, (fig. 24.) the intersections of these lines with the rabbet of the stem, namely, the points I, K, L, M will be the points of termination of the several ribbands on the stem in the plane of elevation. Divide 8 A (fig. 25.) so that 8 B, 8 C, 8 D, and 8 E, may be respectively equal to BI, DK, FL, and HM (fig. 26.), and draw the dotted lines SB, SC, SD, SE (fig. 25.) Apply the edge of a slip of card to the first ribband (fig. 24.), and mark

3 C

thereon.

(D) It is evident, from the method used to divide the base of the triangle, that this proportion does not agree exactly with the construction: the difference, however, being small, is therefore neglected in practice.

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thereon the extremities of the ribband *a*, *E*, and also the point of intersection of the loof frame. Then apply this slip of card to the triangle in such a manner that the point *a* may be on the dotted line *SB*, the point *E* on the line *SM*, and the point answering to the loof frame on the dotted line *SZ*; and mark upon the card the several points of intersection of the lines *S1*, *S2*, &c. Now apply the card to the ribband *aE* (fig. 24.) as before, and transfer the several points of division from it to the ribband. In like manner proceed with the other ribbands; and lines drawn through the corresponding points in the ribbands will be the projection of the lower part of the frames in the fore body. The projections of the top-timbers of the several frames may be taken from the half breadth plan; and hence each top-timber may be easily described.

In large ships, particularly in those of the French navy, a different method is employed to form the top-timbers in the fore body, which is as follows:

Plate CCCCLIX.

Let *BI* (fig. 27.) be one fourth of the breadth of the ship, and draw *IK* parallel to *AB*. Take the height of the foremost frame from the plane of elevation, and lay it off from *A* to *B*: from the point *B* draw *BH* perpendicular to *AB*, and equal to half the length of the wing transom. Let *E* be the place of the breadth ribband on the main frame, and *F* its place on the stem at the height of the wing transom. With a radius equal to five sixths of half the greatest breadth of the ship describe the quadrant *EFG* (fig. 28.): Make *EH* equal to *FG* (fig. 27.), the point *F* being at the height of the wing transom. Through *H* draw *HO* perpendicular to *EH*, and intersecting the circumference in *O*; then draw *OL* parallel to *HE*, and *EL* parallel to *HO*. Divide *EL* into as many equal parts as there are frames in the fore body, including the main frame, and from these points of division draw the perpendiculars *11*, *22*, &c. meeting the circumference as in the figure. Take the distance *11*, and lay it off from *G* (fig. 27.) towards *F* to the point *1*; and from the same point *G* lay off towards *F* the several perpendiculars contained between the straight line and the curve to the points *2*, *3*, &c. and through these points draw lines parallel to *EG*.

Take any line *AB* (fig. 29.) at pleasure: divide it equally in two in the point *8*; divide *8B* in two parts in the point *7*, and continue this method of division until there are as many points as there are frames in the fore body, including the main frame. Upon *AB* construct the equilateral triangle *ACB*, and draw the lines *C8*, *C7*, &c. Place a slip of card on the parallel *aK8* (fig. 27.), and mark thereon the points opposite to *a*, *K*, and *8*; and let them be denoted accordingly. Then apply this slip of card to the triangle, so that the point *a*, which is that answering to the rabbet of the stem, may be on the line *AC*; that the point answering to *K* may be on *C8*, and the extremity *8* on the line *CB*; and mark on the card the points of intersection of the lines *C7*, *C6*, &c. and number them accordingly. Now apply this slip of card to the seventh parallel (fig. 23.), the point *a* being on the line *CD*, and mark on this parallel the point of intersection *7*; slide the card down to the sixth parallel, to which transfer the point *nº 6*. In like manner proceed with the other parallels.

The point *K*, at the intersection of the line *IK* with

the eighth parallel, is one point through which the eighth frame passes. From this point upwards a curve is to be described so as to reconcile with the lower part of this frame already described, and the upper part, forming an inverted arch, which is to terminate at *H*. This top-timber may be formed by two sweeps, whose radii and centres are to be determined partly from circumstances and partly according to fancy. It however may be more readily formed by hand.

Let *LM* (fig. 27.) be the line of the second deck at the main frame, and let *LN* be the difference of the draught of water, if any. Make *GN* (fig. 28.) equal to *LN*; draw *NM* perpendicular to *GN*, meeting the circle in *M*; and through the points *G* and *M* draw the parallels *GV* and *MV*; divide *GN* as before, and from the several points of division draw perpendiculars terminating in the curve. Transfer these perpendiculars from *L* upwards (fig. 27.), and through the points thus found draw the lines *11*, *22*, &c. parallel to *LM*. Apply a slip of card to the eighth parallel, and mark upon it the point answering to the stem, the eighth and main frames: carry this to the triangle, and place it so that these points may be on the corresponding lines. Then the points of intersection of the lines *C7*, *C6*, &c. are to be marked on the card, which is now to be applied first to the eighth parallel (fig. 27.), then to the seventh, &c. transferring the several points of division in order as before.

Draw the line *HO* (fig. 27.); mark its length on a slip of card, and apply it to the triangle, so that it may be parallel to its base, and its extremities one on the eighth and the other on the main frame: mark on the card the points of intersection of the several intermediate lines as before; then apply the card to *HO*, and transfer the divisions.

There are now three points determined through which each top-timber must pass, namely, one in the breadth ribband, one in the fifth, and one in the upper ribband. Through these curves are to be described, so as to reconcile with the lower part of the frame, and partake partly of the curvature of the eighth frame, and partly of that of the main frame, but most of that of the frame to which it is nearest: and hence the plane of projection is so far finished, that it only remains to prove the several frames by water lines.

Another method of describing the frames in the body plan is by sweeps. In this method it is necessary, in the first place, to describe the height of the breadth lines, and the rising of the floor, in the plane of elevation. The half breadth lines are next to be described in the floor plan. The main frame is then to be described by three or more sweeps, and giving it such a form as may be most suitable to the service the ship is designed for. The lower, upper, and top-timber heights of breadth, and the risings of the floor, are to be set upon the middle line in the body plan, and the several half breadths are then to be laid off on lines drawn through these points perpendicular to the middle line. A mould may then be made for the main frame, and laid upon the several risings, as in whole mouldings, explained in Chapter V. with this difference, that here an under breadth sweep is described to pass through the point which limits the half breadth of the timber, the centre of which will be in the breadth line of that timber. The proper centres for all the frames being found, and the

Preliminary Problems.

the arches described, the bend mould must be so placed on the rising line of the floor, that the back of it may touch the back of the under breadth sweep. But the general practice is, to describe all the floor sweeps with compasses, as well as the under breadth sweeps, and to reconcile these two by a mould which is an arch of a circle, its radius being the same with that of the reconciling sweep by which the midship frame was formed. It is usual for all the floor sweeps to be of the same radius; and in order to find their centres a line is formed on the floor plan for the half breadth of the floor. As this line cannot be described on the surface of a ship, it is therefore only an imaginary line. Instead of it some make use of a diagonal in the body plane to limit the half breadth of the floor upon every rising line, and to erect perpendiculars at the several intersections, in the same manner as for the midship frame.

After the sweeps are all described, recourse is had to moulds, or some such contrivance, to form the hollow of the timbers, much in the same manner as in whole moulding; and when all the timbers are formed, they must be proved by ribband and water lines, and altered, if necessary, to make fair curves.

The preceding methods of describing the several planes or sections of a ship being well understood, it will be a very easy matter to construct draughts for any proposed ship: and as the above planes were described separately and independent of each other, it is therefore of little consequence which is first described. In the following application, however, the plane of elevation will be first drawn, then part of the floor plan, and lastly the body plan: and in connecting these plans the most rational and simple methods will be employed.

CHAP. IV. Application of the foregoing Rules to the Construction of Ships.

SECT. I. To construct a Ship intended to carry a considerable Burden in Proportion to her general Dimensions, and to draw little Water.

DIMENSIONS.

Length between the wing transom and a perpendicular from the rabbet of the stem at the height of breadth line	F.	In.
Main half breadth moulded	80	0
Half breadth at the height of breadth line at the stern	11	0
Top-timber half breadth	7	6
Height of the stem above the upper edge of the keel	10	6
Height of the breadth line at the stem	17	0
Height of the breadth line at the stern	13	6
Upper height of breadth at the main frame	12	3
Lower height of breadth	7	4
Height of middle line of wales at the stem	5	10
Height of middle line of wales at the main frame	10	0
Height of middle line of wales at the stern	6	10
Breadth of the wales	10	6
Height of top-timber at midships	1	9
at stern	14	0
	18	0

Draw the line ab (fig. 30.) equal to 80 feet, from a convenient scale: divide it into as many equal parts plus one as there are to be frames, which let be 16, and through each point of division draw perpendiculars. Make bc equal to 17 feet, the perpendicular height of the top of the stem above the upper edge of the keel, and describe the stem by Prob. II. Make ad equal to $10\frac{1}{2}$ feet, the height of the middle line of the wales at the stern, and ae equal to the proposed rake of the post, which may be about 2 feet; join de ; and draw the line fg representing the aft-side of the post. Describe the counter and stern by Problem VI. and VII. Make $\oplus b$ equal to 14 feet, the top-timber height at the main frame, and ik equal to 18 feet, the height at the stern; and through the three points c, b, k , describe the curve limiting the top-timbers by Problem I. Make bd equal to 10 feet, the height of the middle line of the wales at the stem, and $\oplus H$ equal to 6 feet 10 inches, the height at the main frame; and the curve dHd being described will represent the middle line of the wales. At the distance of $10\frac{1}{2}$ inches on each side of this line draw two curves parallel thereto, and the wales will be completed in this plan. Make bl equal to $13\frac{1}{2}$ feet, the height of the breadth line at the stem; am equal to $12\frac{1}{2}$ feet, the height at the stern; and $I\oplus K\oplus$ equal to 5 feet 10 inches and 7 feet 4 inches respectively; and draw the upper breadth line Ik and lower breadth line Im . From the line ab lay downwards the breadth of the keel, which may be about one foot, and draw the line Ll parallel to ab .

Let the line Lr , which is the lower edge of the keel, represent also the middle line of the floor plan. Produce all the perpendiculars representing the frames: make $\otimes M$ (fig. 31.) equal to 11 feet, the main half breadth at midships; through m (fig. 30.) draw the line mN perpendicular to ab , and make pN equal to $7\frac{1}{2}$ feet, and draw the main half breadth line NMr by Problem IV. Describe also the top-timber half breadth line POr , $\oplus O$ being equal to $10\frac{1}{2}$ feet, and form the projecting part of the stem $qrst$.

In order that the top-timber line may look fair on the bow, and to prevent the foremost top-timbers from being too short, it is necessary to lift or raise the sheer from the round of the bow to the stem. For this purpose the following method is usually employed: Produce the circular sheer before the stem in the plane of elevation at pleasure; then place a batton to the round of the bow in the half breadth plan, and mark on it the stations of the square timbers and the side of the stem; apply the batton to the sheer plan, and place it to the sheer of the ship, keeping the stations of the timbers on the batton well with those on the sheer plan for several timbers before dead-flat, where they will not alter; then mark the other timbers and the stem on the sheer line produced; through these points draw lines parallel to the keel, to intersect their corresponding timbers and the stem in the sheer plan: then a curve described these last points will be the sheer of the ship round the bow, lifted as required: and the heights of the timbers thus lengthened are to be transferred to the body plan as before.

Draw the line AB (fig. 32.) equal to 22 feet, the whole breadth; from the middle of which draw the perpendicular CD : make CE equal to half the thickness

Application
of the fore
going Rules
to the Con-
struction of
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of the post, and CF equal to half that of the stem, and from the points A, E, F, B, draw lines parallel to CD. Make AG, BG each equal to 14 feet, the height at the main frame, and draw the line GG parallel to AB. Make GH, GH each equal to half a foot, the difference between the main and top timber half breadths. From A and B set up the heights of the lower and upper breadth lines to I and K, and draw the straight lines IK, IK. Let CL be the rising at the main frame, and $\oplus$, $\oplus$ the extremities of the floor timber. Hence, as there are now five points determined in each half of the main frame, it may be very easily described.

Make CM equal to L $\oplus$, join M $\oplus$, and draw the other ribbands NO, PQ. In order, however, to simplify this operation, the rectilinear distance $\oplus$ I was trifled, and through the points of division the lines NO, PQ were drawn parallel to the floor ribband M $\oplus$.

Take the distance bc (fig. 30.), and lay it off from F to (fig. 32.); also make Fb (fig. 32.) equal to Fu (fig. 30.); through b draw bc parallel to AB, and equal to FR (fig. 31). In like manner take the heights of each top-timber from fig. 30. and lay them off from C towards D (fig. 32); through these points draw lines parallel to AB, and make them equal each to each, to the corresponding half breadth lines taken from the floor plan: Then through the several points a , c , &c. thus found, draw a line acH , which will be the projection of the top-timber line of the fore body in the body plan. Proceed in the same manner to find the top-timber line in the after body.

Transfer the height of the main-breadth line on the stem bI (fig. 30.) from F to d (fig. 32). Transfer also the heights of the lower and upper breadth lines at timber F (fig. 30.), namely, FW, FX, from F to e and f (fig. 32.); through which draw the parallels eg , fb ; make them equal to FS (fig. 31.), and draw the straight line gb . In this manner proceed to lay down the portions of the extreme breadth at each frame, both in the fore and in the after body in the body plan, and draw the upper and lower breadth lines dbK , dgI in the fore body and Ki , Ii in the after body. Hence the portions of the several top-timbers contained between the top-timber and main breadth lines may be easily described. It was before remarked that their forms were partly arbitrary. The midship top-timber has generally a hollow, the form of which is left entirely to the artist, though in some ships, especially small ones, it has none. It is the common practice to make a mould for this hollow, either by a sweep or some other contrivance, which is produced considerably above the top-timber line, in a straight line or very near one; The midship top-timber is formed by this mould, which is so placed that it breaks in four with the back of the upper breadth sweep. The other top-timbers are formed by the same mould, observing to place it so that the straight part of it may be parallel to the straight part of the midship timber, and moved up or down, still keeping it in that direction till it just touches the back of the upper breadth sweep. Some constructors begin at the after timber, after the mould is made for the midship top-timber, because they think it easier to keep the straight part of the mould parallel to this than to the midship timber; and by this means the top side is kept from winding. Others, again, make a mark upon

the mould where the breadth line of the midship timber crosses it, and with the same mould they form the after timber: this will occasion the mark that was made on the mould when at the main frame to fall below the breadth line of the after timber, and therefore another mark is made at the height of the breadth line at the after timber; the straight part of the mould is then laid obliquely across the breadth lines of the top-timbers, in such a manner that it may intersect the breadth line of the midship timber at one of these marks and the breadth line of the after timber at the other mark; then the several intersections of the breadth lines of the timbers are marked upon the mould; which must now be so placed in forming each timber, that the proper mark may be applied to its proper breadth, and it must be turned about so as just to touch the upper breadth sweep. Any of these methods may make a fair side, and they may be easily proved by forming another intermediate half breadth line.

The remaining parts of the frames may be described by either of the methods laid down in Problems IX. and X. In order, however, to illustrate this still farther, it is thought proper to subjoin another method of forming the intermediate frames, the facility of which will recommend it.

Take FZ (fig. 30.), and lay it from F to k (fig. 32.); then describe the lower part of the foremost frame, making it more or less full according as proposed; and intersecting the ribbands in the points l , m , n . Describe also the aftermost frame o , p , q . Make $\alpha\beta$ (fig. 30.) equal to Fr (fig. 32.), and produce it to a (fig. 31.); also draw $\gamma\delta$, and $\epsilon\zeta$ (fig. 30.) equal to Er and Es (fig. 32.) respectively; and produce them to b and c : Make Fe, Ff, FR (fig. 31.) equal to Ml, Nm, Pn (fig. 32.) each to each. Let also $\oplus b$, $\oplus i$, $\oplus k$, and gl , gm , gn (fig. 31.) be made equal to M $\oplus$, NO, PQ and Mo, Nq, Pp (fig. 32.); then through these points trace the curves $aenblb$, $rfimc$, and $rRkn p$, and they will be the projections of the ribbands in the floor plane. Now transfer the several intervals of the frames contained between the middle line and the ribbands (fig. 31.) to the corresponding ribbands in the body plan (fig. 32). Hence there will be five points given in each frame, namely, one at the lower breadth line, one at each ribband, and one at the keel; and consequently these frames may be easily described. In order to exemplify this, let it be required to lay down the frame E in the plane of projection. Take the interval En (fig. 31.), and lay it from M to u (fig. 32). Lay off also Ev, Ee (fig. 31.) from N to v and from P to n (fig. 32.); then through the points F, u , v , n and the lower breadth line describe a curve, and it will be the representation of the frame E in the body plan. In like manner the other frames may be described.

The ribbands may now be transferred from the body plan to the plane of elevation, by taking the several heights of the intersection of each ribband with the frames, and laying them off on the corresponding frames in the floor plan; and if the line drawn through these points make a fair curve, it is presumed that the curves of the frames are rightly laid down in the body plan. Only one of these ribbands, namely, the first, is laid down in fig. 30. These curves may also be farther proved, by drawing water lines in the plane of elevation,

Fig. 17.

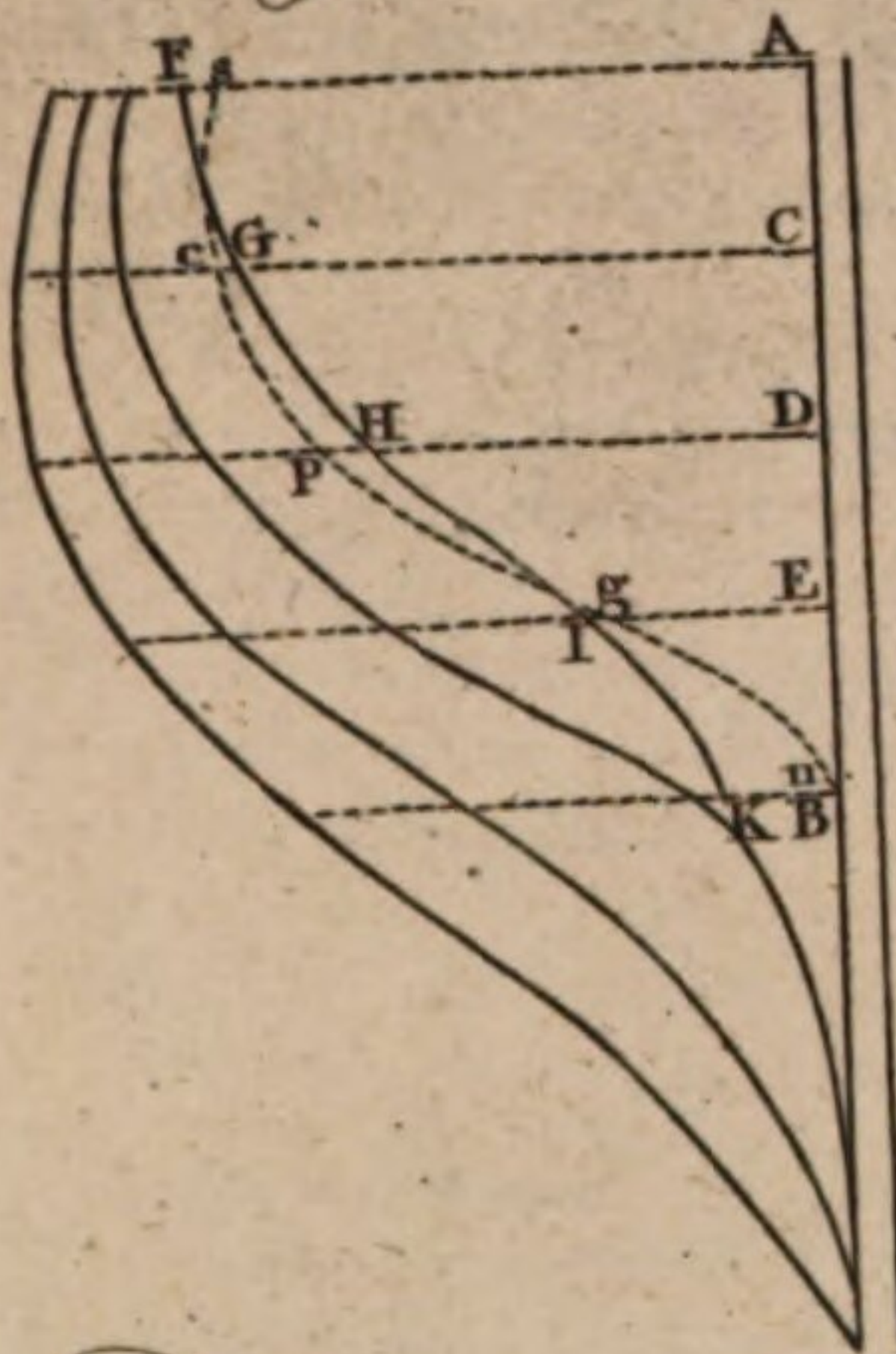


Fig. 18.

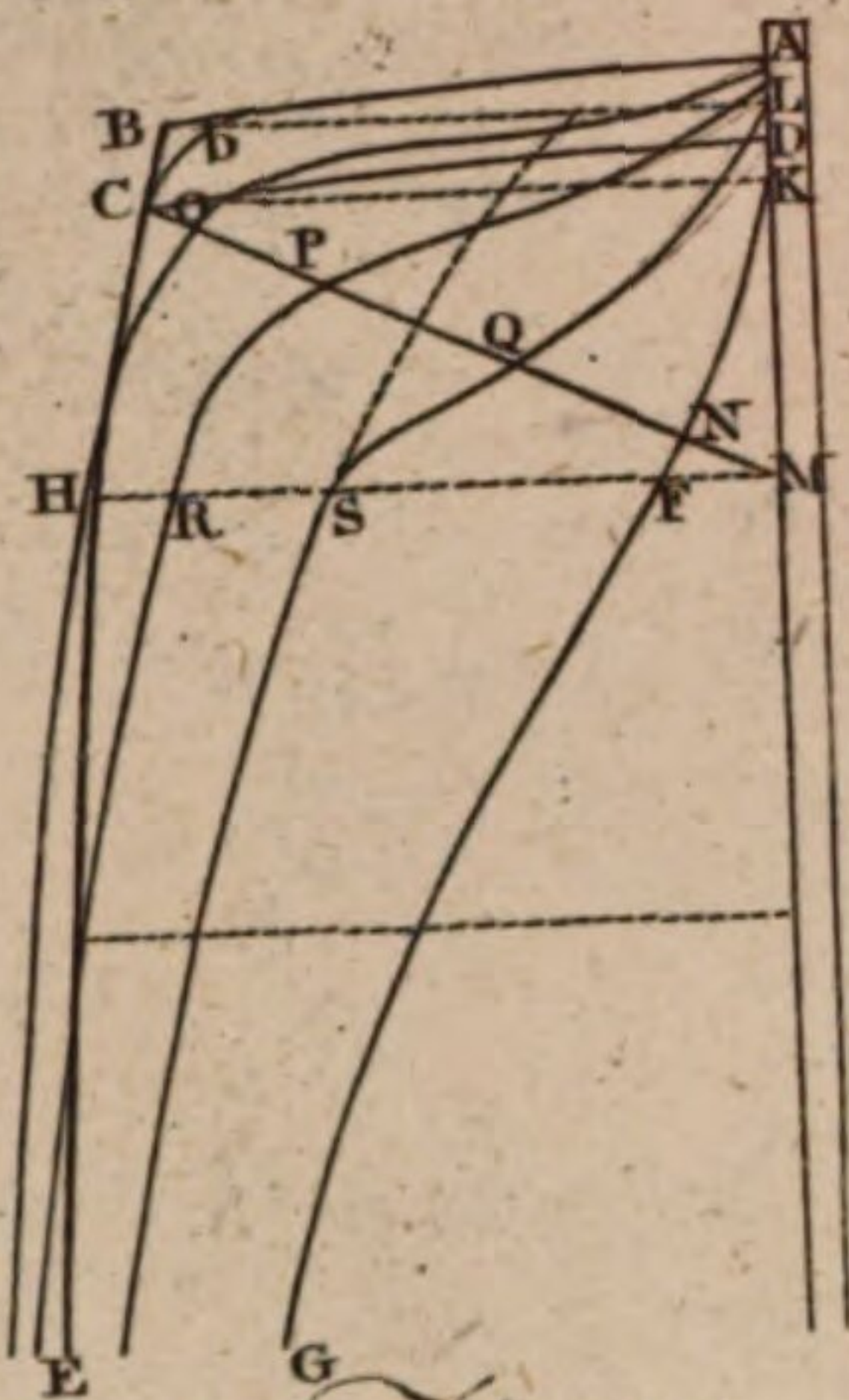


Fig. 19.

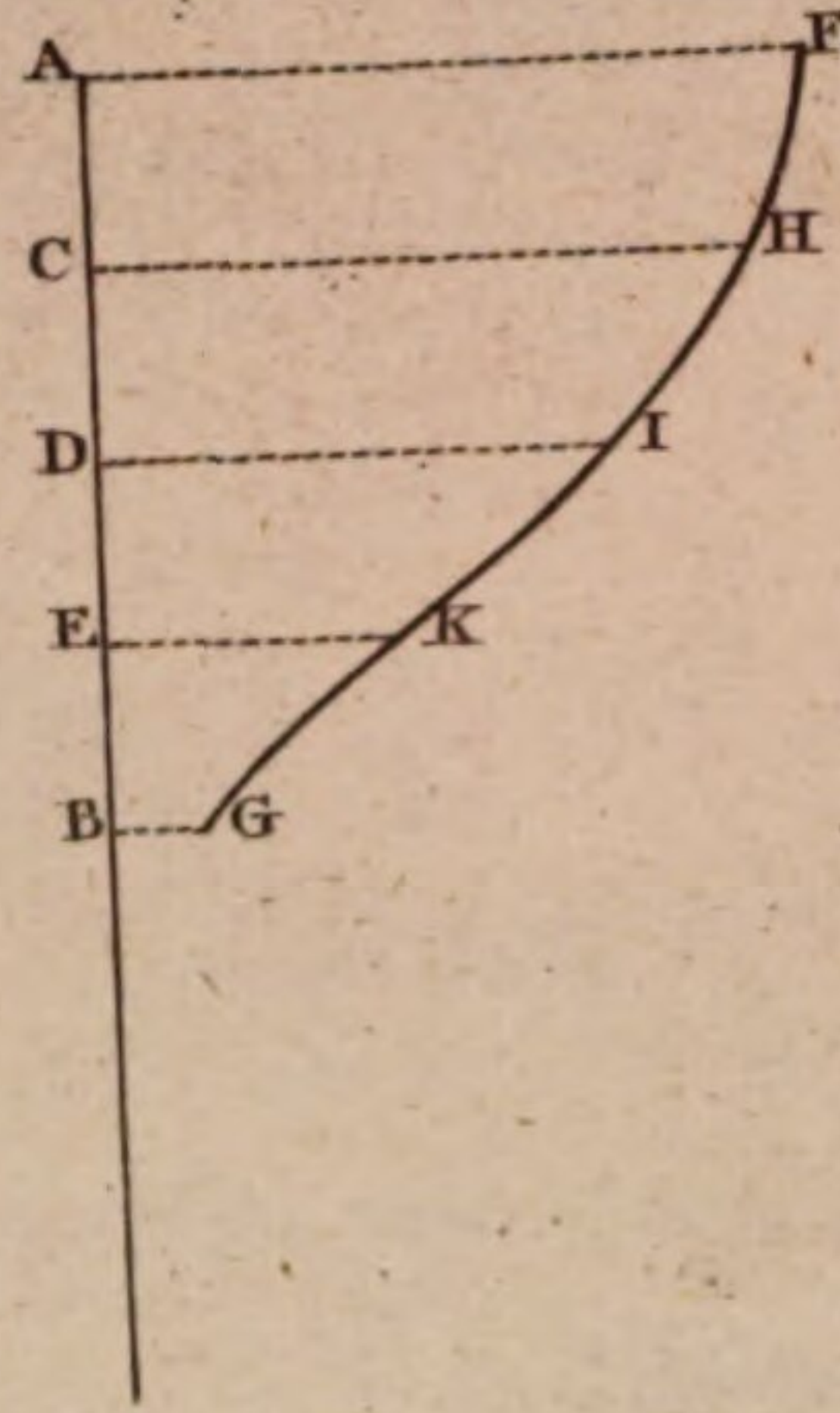


Fig. 20.

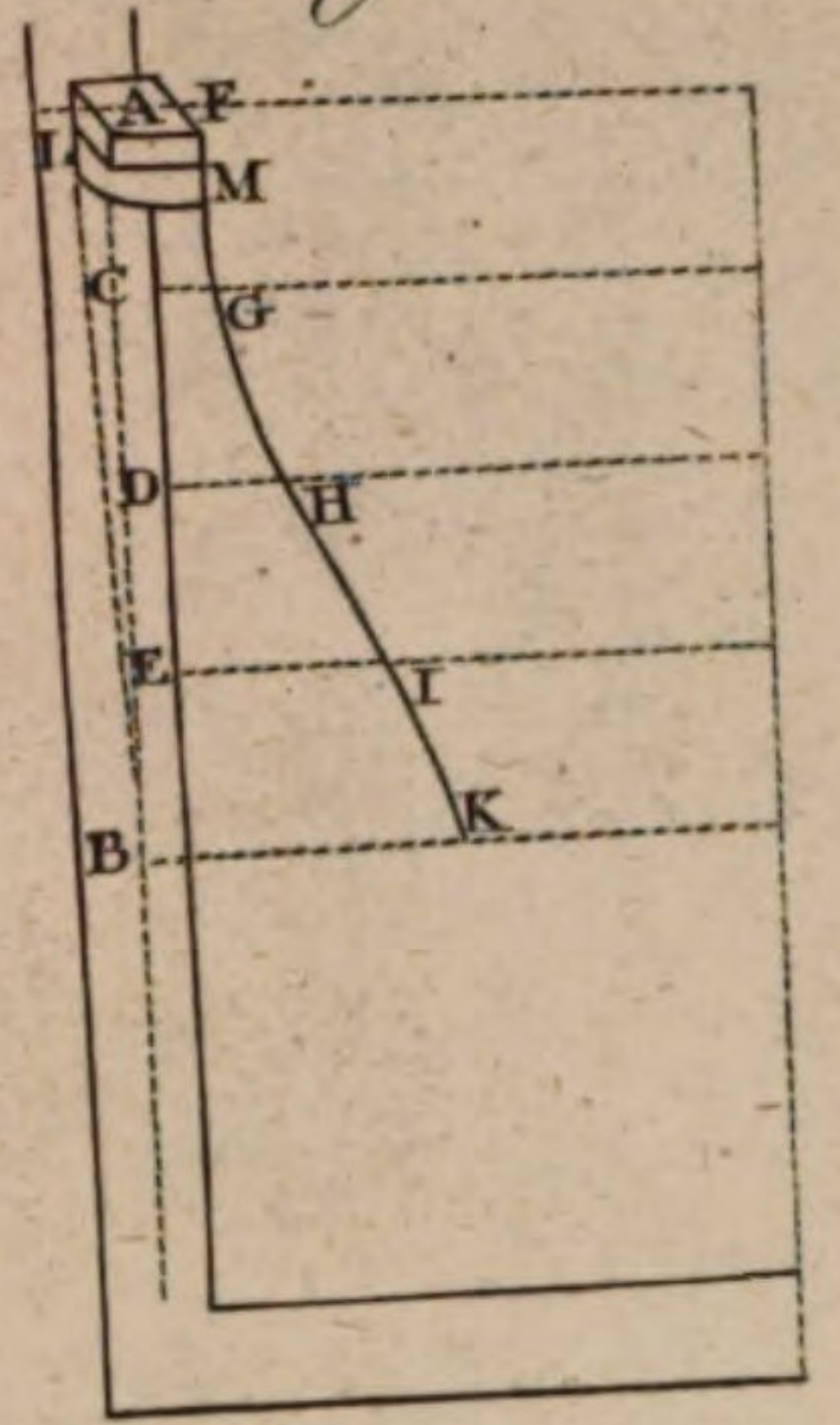


Fig. 21.

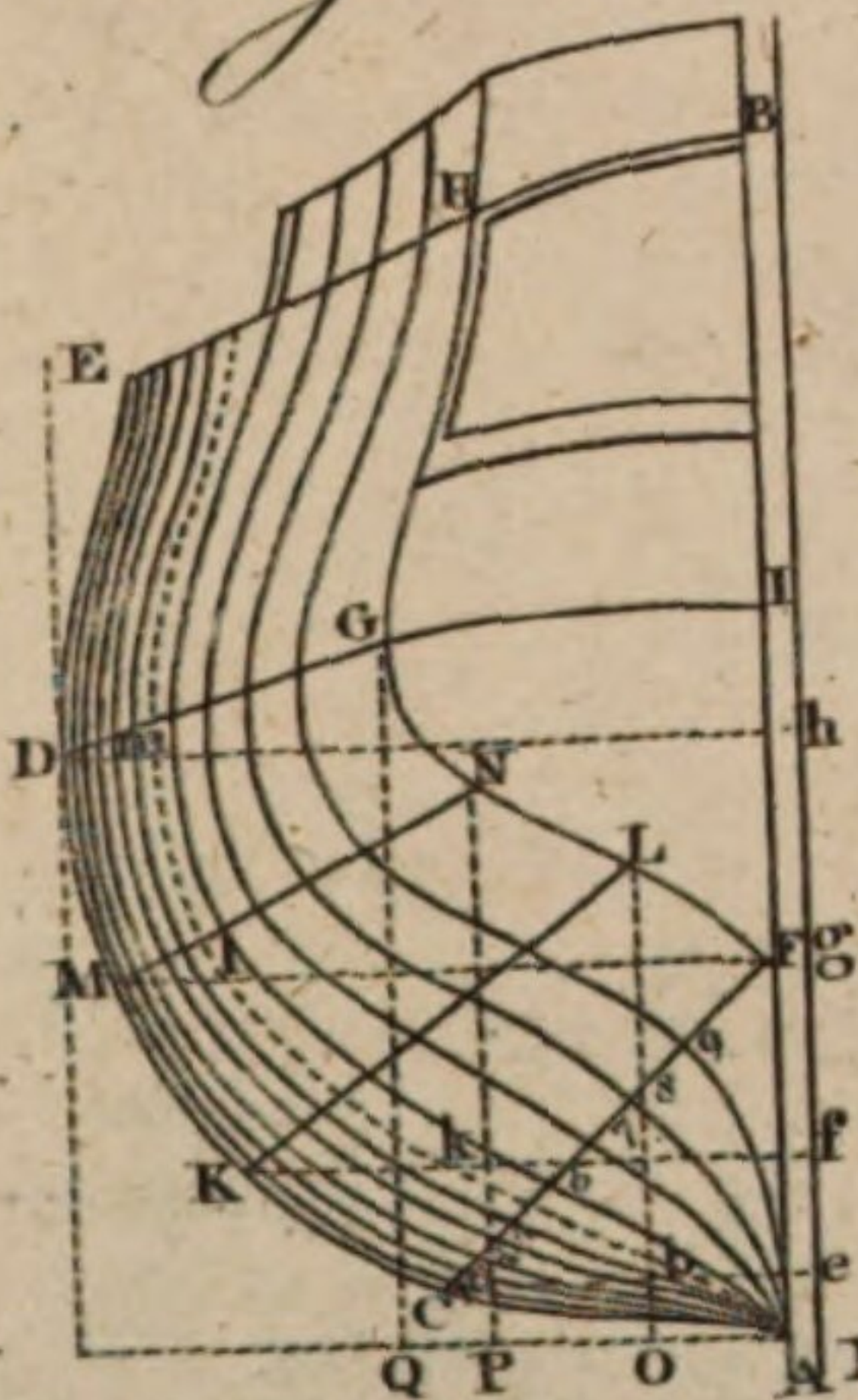


Fig. 22.

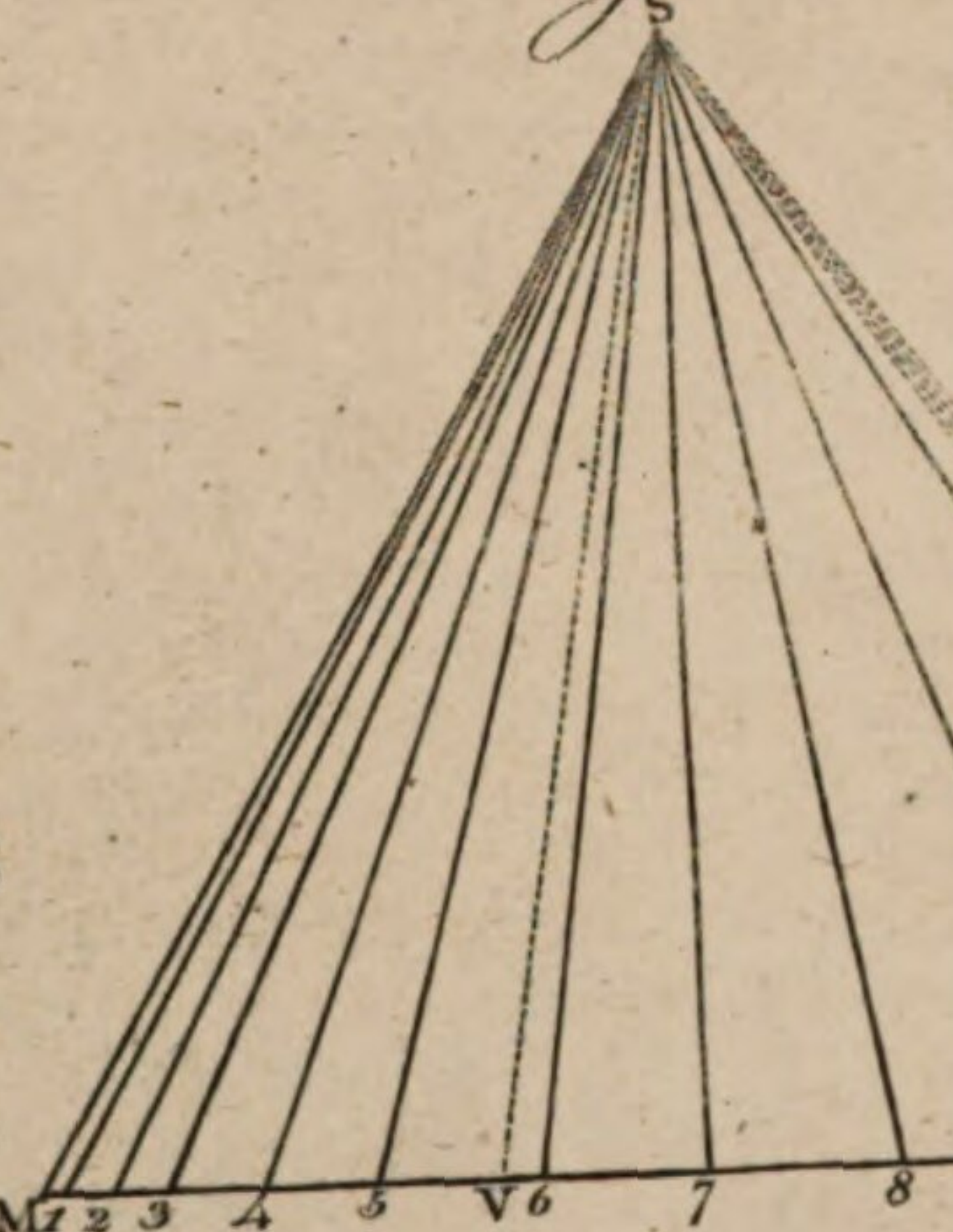


Fig. 23.

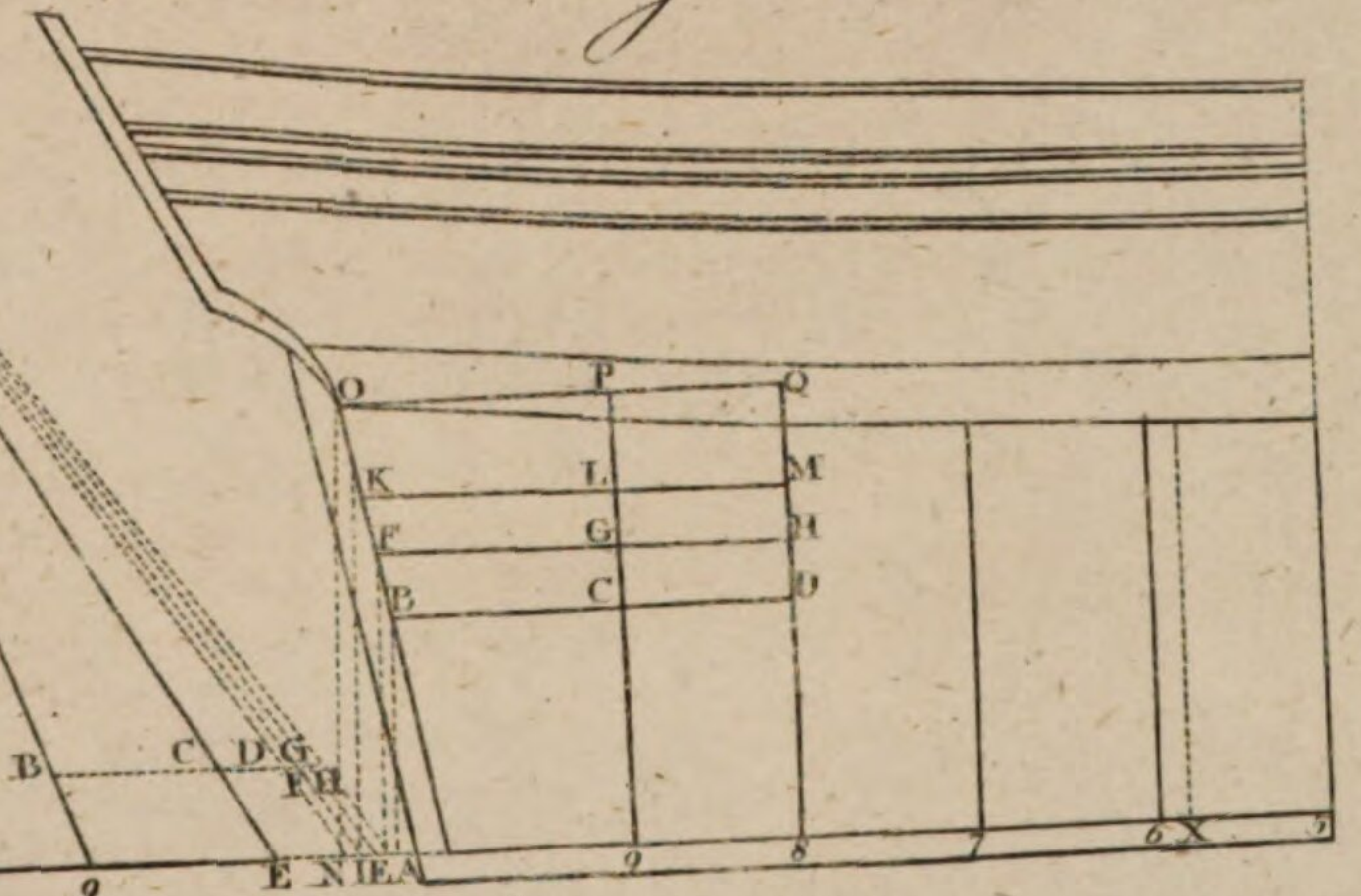


Fig. 24.

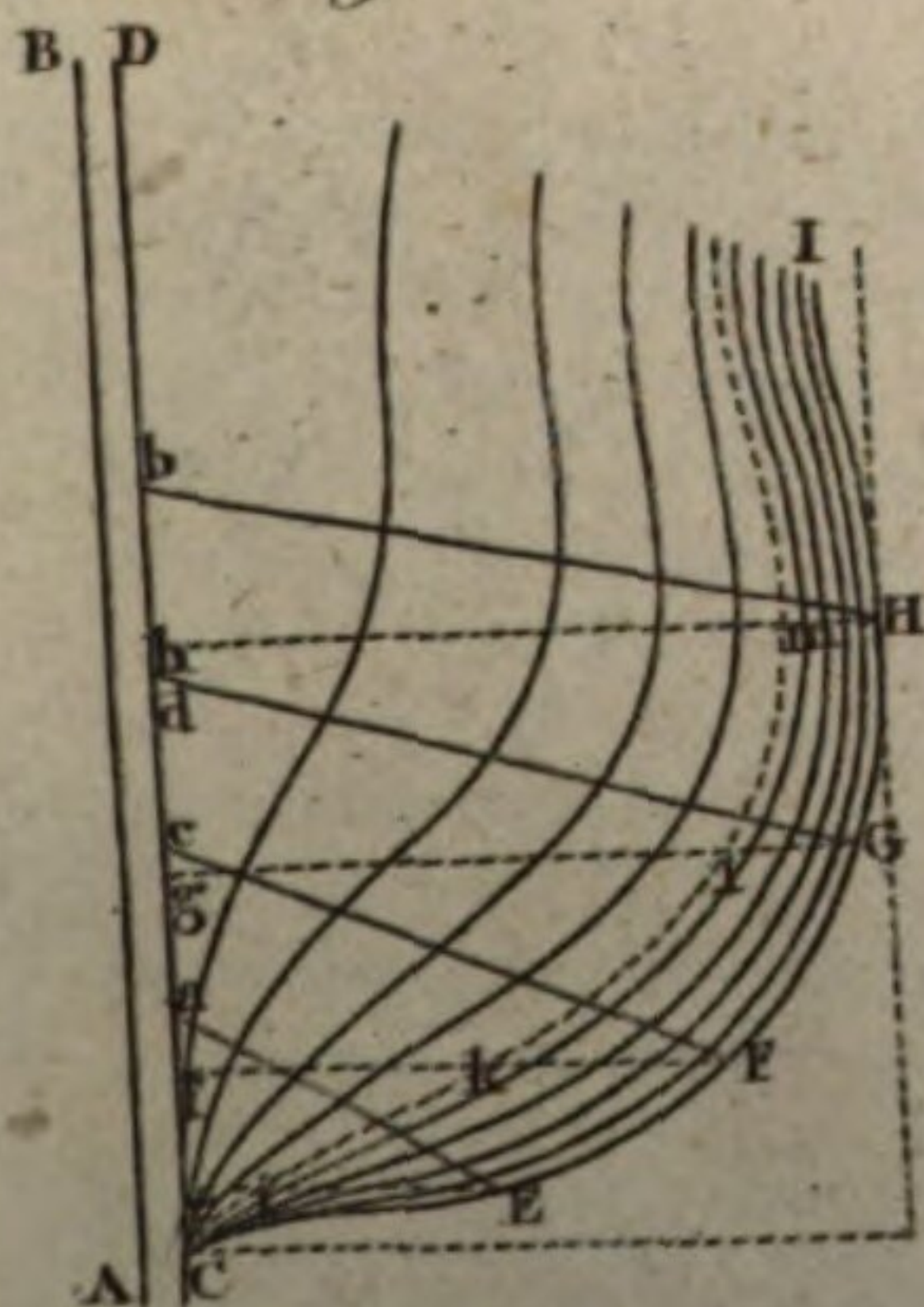


Fig. 25.

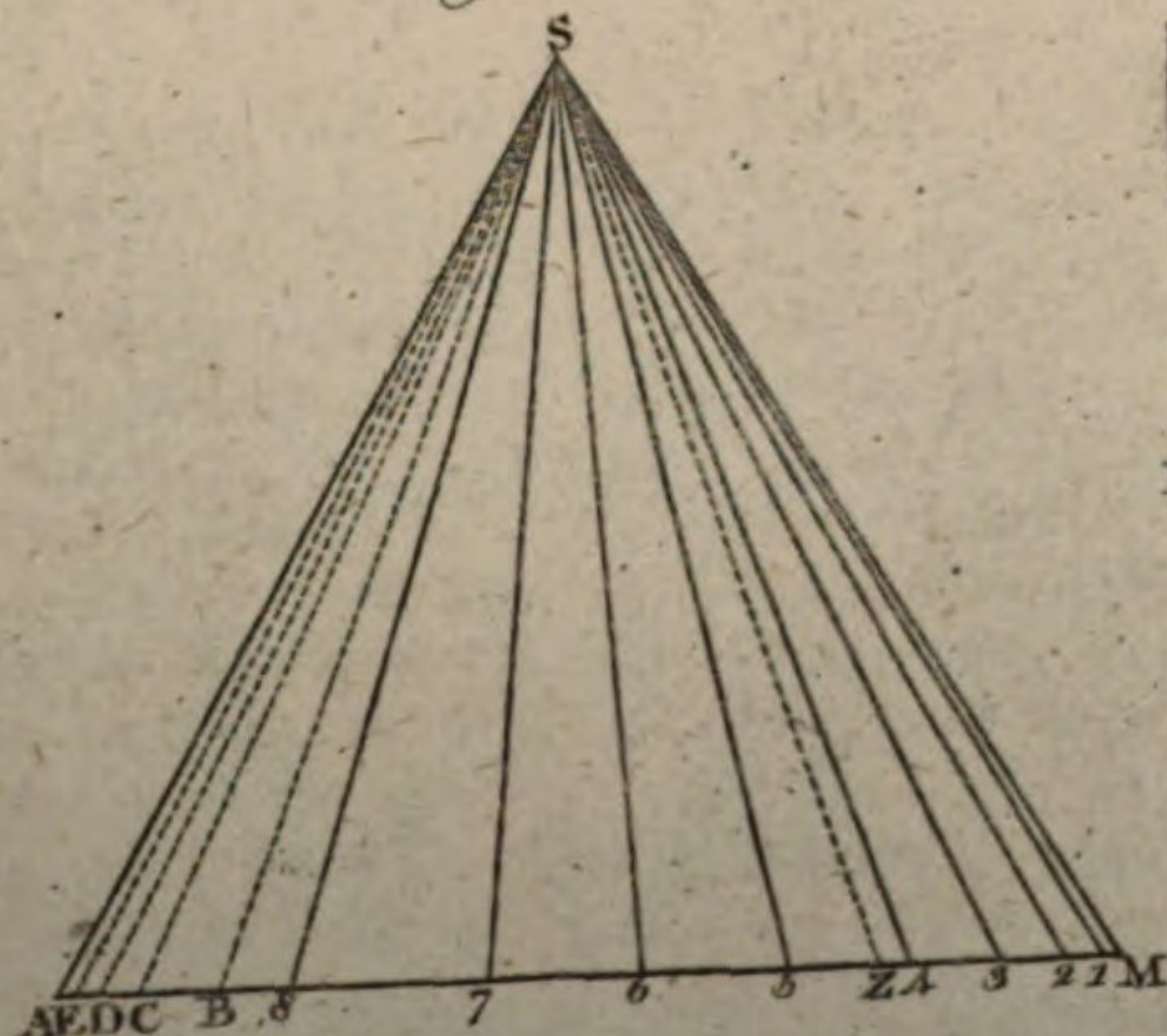
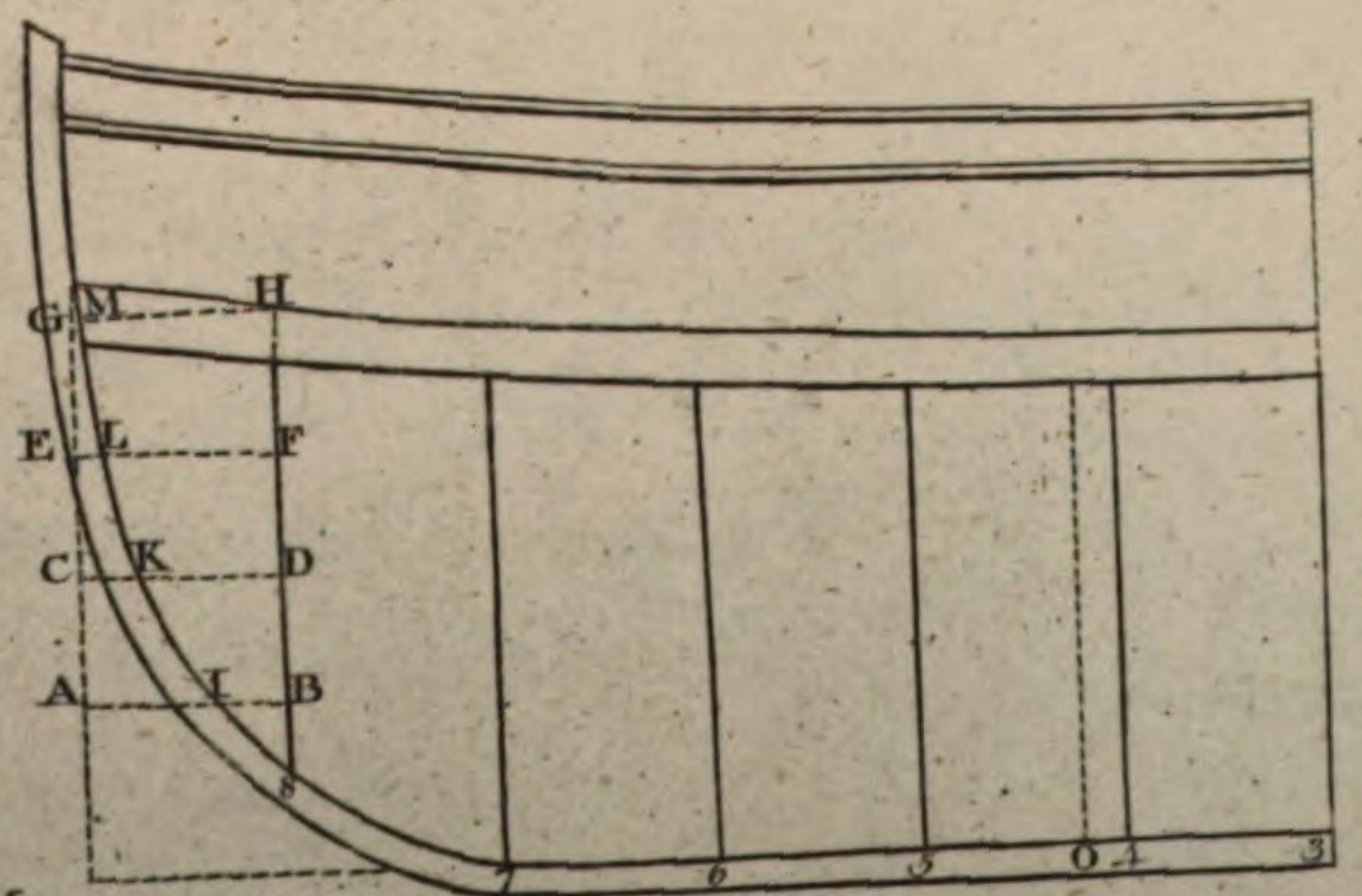


Fig. 26.



Application of the foregoing Rules to the Construction of Ships. variation, and in the body plan, at equal distances from the upper edge of the keel. Then the distances between the middle line of the body plan, and the several points of intersection of these lines with the frames, are to be laid off from the middle line in the floor plan upon the corresponding frames; and if the line drawn through these points form a fair curve, the frames are truly drawn in the body plan.

In figs. 30. and 32. there are drawn four water lines at any equal distances from the keel, and from each other. These lines are then transferred from fig. 32. to fig. 31.; and the lines passing through these points make fair curves.

The transoms are described by Problem VIII. it is therefore unnecessary to repeat the process. A rising line of the floor timbers is commonly drawn in the plane of elevation.

As this is intended only as an introductory example, several particulars have therefore been omitted; which, however, will be exemplified in the following section.

SECT. IV. *To describe the several Plans of a Ship of War proposed to carry 80 Guns upon two Decks.*

As it is proposed in this place to show the method of describing the plans of a ship of a very considerable size, it therefore seems proper to give the dimensions of every particular part necessary in the delineation of these plans. The several plans of this ship are contained in Plate CCCCLXI. figs 33, and 34. But as it would very much confuse the figures to have a reference to every operation, and as the former example is deemed a sufficient illustration, the letters of reference are upon these accounts omitted in the figures.

PRINCIPAL DIMENSIONS.

Ship build-
er's Repo-
sitary.

	F.	In.
<i>Lengths.</i> —Length on the gun or lower deck from the aft part of the rabbet of the stem to the aft part of the rabbet of the post	182	0
Length from the foremost perpendicular to dead flat	63	11 $\frac{3}{4}$
Length from the foremost perpendicular to timber Y	4	0
Length from after perpendicular to timber 37	3	4
Room and space of the timbers	2	8 $\frac{1}{2}$
Length of the quarter-deck from the aft part of the stern	95	0
Length of the fore-castle from the fore part of the beak-head	49	0
Length of round-house deck from the aft part of the stern	51	8
<i>Heights.</i> —Height of the gun or lower deck from the upper edge of the keel to the under side of the plank at dead flat	24	0
Height of the gun or lower deck from the upper edge of the keel to the under side of the plank at foremost perpendicular	26	3
Height of the gun or lower deck from the upper edge of the keel to the under side of the plank at after perpendicular	26	3
Height from the upper side of the gun-deck plank to the under side of the upper deck plank, all fore and aft	7	0

Height from the upper side of the upper deck plank to the under side of the greater deck plank	afore	6	10
	abaft	6	11
Height to the under side of fore-castle plank, afore and abaft		6	6
Height from the upper side of the quarter-deck plank to the under side of the round-house plank	afore	6	9
	abaft	6	10
Height of the lower edge of the main wales at foremost perpendicular		24	6
Height of the lower edge of the main wales at dead flat		20	0
Height of the lower edge of the main wales at after perpendicular		26	6
Height of the lower edge of the channel wales at foremost perpendicular		32	6
Height of the lower edge of the channel wales at dead flat		29	0
Height of the lower edge of the channel wales at after perpendicular		34	0
Height of the upper side of the wing transom		28	4
Height of the touch of the lower counter at the middle line		33	5
Height of the touch of the upper counter at the middle line		36	2
Height of the top-timber line at the after part of the stern timber		44	7
<i>Breadths.</i> —Main wales in breadth from lower to upper edge		4	6
Channel wales in breadth from lower to upper edge		3	0
Wait rail in breadth		0	7
Distance between the upper edge of the channel wales and the under edge of the wait rail		2	9
Sheer rail in breadth		0	6
Distance between the sheer rail and the rail above from timber 13 to the stern		2	5
Distance between the sheer rail and the rail above from timber 7 to timber 11		1	4
Distance between the sheer rail and the rail above from timber C to the forepart of beak-head		1	2
And the said rail to be in breadth		0	6
Plank sheer to be in thickness		0	2 $\frac{1}{2}$
<i>Centres of the masts.</i> —From the foremost perpendicular to the centre of the mainmast on the gun-deck		103	2
From the foremost perpendicular to the centre of the foremast on the gun-deck		20	5
From the after perpendicular to the centre of the mizenmast on the gun-deck		28	6
<i>Stem.</i> —The centre of the sweep of the stem abaft timber P		0	4
Height of ditto from the upper edge of the keel		26	1
Stem/moulded		1	3
Foremost part of the head afore the perpendicular		2	4
Height of ditto from the upper edge of the keel		38	3
<i>Stern-post.</i> —Aft part of the rabbet afore the			per-

Application of the foregoing Rules to the Construction of Ships.	perpendicular on the upper edge of the keel	Ft.	In.		Ft.	In.	Application of the foregoing Rules to the Construction of Ships.
Aft part of the port abaft the rabbet at the upper edge of the keel	-	3	4				
Aft part of the port abaft the rabbet at the wing transom	-	2	6				
Stern-port fore and aft on the keel	-	1	1				
Ditto square at the head	-	3	1				
Counters.—The touch of the lower counter at the middle line, abaft the aft part of the wing transom	-	2	0 $\frac{1}{2}$				
Round aft of the lower counter	-	7	6				
Round up of the lower counter	-	1	4				
The touch of the upper counter at the middle line, abaft the aft part of the wing transom	-	0	9				
Round aft of the upper counter	-	9	9				
Round up of the upper counter	-	1	3 $\frac{1}{2}$				
Aft part of the stern-timber at the middle line, at the height of the top-timber line, abaft the aft part of the wing transom	-	0	10				
Round aft of the wing transom	-	12	6				
Round up of the wing transom	-	0	6				
	-	0	5 $\frac{1}{2}$				

Draught of water.—Load draught of water from the upper edge of the keel

Channels.—Foremost end of the fore channel afore timber R

The channel to be in length

And in thickness at the outer edge

The dead eyes to be 12 in number and in diameter

Foremost end of the main channel afore timber 9

The channel to be in length

And in thickness at the outer edge

The dead eyes to be 14 in number and in diameter

Foremost end of the mizen-channel abaft timber 27

The channel to be in length

And in thickness at the outer edge

The dead eyes to be 7 in number and in diameter

DIMENSIONS of the several Parts of the Bodies.

Fore Body.	Timbers Names.							
	⊕	C	G	L	P	T	W	Y
	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
Lower height of breadth	22 6	22 6	22 7	23 0	23 11	25 7	26 10	28 8
Upper height of breadth	24 10	24 10	24 10	24 10 $\frac{1}{2}$	25 3 $\frac{1}{2}$	26 4 $\frac{1}{2}$	27 4 $\frac{1}{2}$	29 0
Height of the top-timber line	37 5	37 7	38 0	38 5	39 1	39 10	40 4	40 9
Height of the rising line *	0 0	0 5 $\frac{1}{2}$	3 10	9 10	18 6			
Height of the cutting down	2 3 $\frac{1}{2}$	2 3 $\frac{1}{2}$	2 3 $\frac{1}{2}$	2 8	3 10	6 4		
Main half breadth	24 5 $\frac{1}{2}$	24 5 $\frac{1}{2}$	24 4 $\frac{1}{2}$	24 0 $\frac{1}{2}$	23 2 $\frac{1}{2}$	20 2	17 0	11 0 $\frac{1}{2}$
Top-timber half breadth	20 11	20 10	20 9	20 6	20 0	18 9 $\frac{1}{2}$	17 10	16 6
Half breadth of the rising	8 7	8 4	6 5 $\frac{1}{2}$	2 9	5 7	Outside		
Length of the lower breadth sweeps	19 2	18 9	18 3	17 3	15 11	14 1	12 7	12 0
First diagonal line	7 9	7 8 $\frac{1}{4}$	7 7	7 1	6 3	3 8		
Second ditto	13 9	13 8 $\frac{1}{2}$	13 4 $\frac{1}{2}$	12 1	10 3	7 1 $\frac{1}{2}$	4 6	
Third ditto	20 0	19 11	19 2	17 7	15 1	11 1	8 3 $\frac{1}{2}$	3 4 $\frac{1}{2}$
Fourth ditto	23 4 $\frac{1}{2}$	23 4 $\frac{1}{2}$	23 0	21 8 $\frac{1}{2}$	18 11	14 8 $\frac{1}{2}$	11 5	6 0
Fifth ditto	24 8	24 8	24 4 $\frac{1}{2}$	23 5 $\frac{1}{2}$	21 2 $\frac{1}{2}$	17 1	13 8 $\frac{1}{2}$	7 11
Sixth ditto								
Seventh ditto	24 1 $\frac{1}{2}$	24 1 $\frac{1}{2}$	24 0	23 9	22 10	20 10 $\frac{1}{2}$	18 6 $\frac{1}{2}$	14 7

* Rising height 11 feet 10 inches at dead flat, from which all the other risings must be set off.

Aster

After Body	Timbers Names.															
	1		5		9		13		17		21		25		29	
	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
Lower height of breadth	22	6	22	6	22	6	22	7 $\frac{1}{2}$	22	9	23	0 $\frac{1}{2}$	23	7 $\frac{1}{2}$	24	6
Upper ditto	24	10	24	10	24	10	24	11	25	1	25	4	25	8	26	3
Height of the top-timber line	37	5	37	5	37	6	37	10	38	3 $\frac{1}{2}$	38	11	39	8	40	6
Height of the cutting down	2	3 $\frac{1}{2}$	2	3 $\frac{1}{2}$	2	3 $\frac{1}{2}$	2	3 $\frac{1}{2}$	2	4	2	7 $\frac{1}{2}$	3	5	5	2 $\frac{1}{2}$
Height of the rising	0	2 $\frac{1}{2}$	0	8 $\frac{1}{2}$	1	9 $\frac{1}{2}$	3	6 $\frac{1}{2}$	6	0	10	1	17	0		
Main half breadth	24	5 $\frac{1}{2}$	24	4 $\frac{1}{2}$	24	4 $\frac{1}{2}$	24	3 $\frac{1}{2}$	24	1	23	8 $\frac{1}{2}$	23	0 $\frac{1}{2}$	21	10
Half breadth of the rising	8	6	8	3	7	9	6	10 $\frac{1}{2}$	5	3 $\frac{1}{2}$	2	8	2	6	Outside	
Top-timber half breadth	20	11	20	10	20	9 $\frac{1}{2}$	20	9	20	7	20	3	19	5	18	2
Top-sides half breadth											19	7	18	4	17	0
Length of lower breadth sweeps	19	2	19	2	19	0	18	7	17	1	16	0	14	5	12	5
First diagonal	7	9	7	8 $\frac{1}{2}$	7	7	7	5	7	2 $\frac{1}{2}$	6	7	5	9	4	7
Second ditto	13	9	13	8 $\frac{1}{2}$	13	6	13	1	12	6	11	2	9	7	7	4
Third ditto	20	0	19	11 $\frac{1}{2}$	19	7 $\frac{1}{2}$	19	0	18	1 $\frac{1}{2}$	16	6	14	2	11	5 $\frac{1}{2}$
Fourth ditto	23	4 $\frac{1}{2}$	23	3	23	1 $\frac{1}{2}$	22	6 $\frac{1}{2}$	21	11	20	3	18	0 $\frac{1}{2}$	15	3 $\frac{1}{2}$
Fifth ditto	24	8	24	7	24	6	24	1 $\frac{1}{2}$	23	6 $\frac{1}{2}$	22	3 $\frac{1}{2}$	20	6 $\frac{1}{2}$	18	2
Sixth ditto															18	8 $\frac{1}{2}$
Seventh ditto											23	9 $\frac{1}{2}$	23	0	21	8 $\frac{1}{2}$

DIAGONAL LINES for both the FORE and AFTER BODIES.

Fore and After Bodies.	Names of the Diagonal Lines.													
	1st		2d		3d		4th		5th		6th		7th	
	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
Height up the middle line	6	11	11	4	16	5 $\frac{1}{2}$	20	8	23	5 $\frac{1}{2}$	27	5	43	9
Distance from the middle line on the base line	4	8	9	1	15	6								
Height up the side line							0	9 $\frac{1}{2}$	6	7	12	7 $\frac{1}{2}$	32	8 $\frac{1}{2}$

I. Of the Sheer Draught or Plane of Elevation.

Draw a straight line (fig. 33.) to represent the upper edge of the keel, erect a perpendicular on that end to the right, and from thence set off 182 feet, the length on the gun-deck, and there erect another perpendicular; that to the right is called the *foremost* perpendicular, and the other the *after* one: upon these two perpendiculars all the foremost and aftermost heights must be set off, which are expressed in the dimensions.

Then set off the distance of the main frame or dead flat from the foremost perpendicular, and at that place erect a third perpendicular, which must be distinguished by the character $\oplus$. From dead flat the room and space of all the timbers must be set off; but it will only be necessary to erect a perpendicular at every frame timber; which in the fore body are called *dead flat*, A, C, E, &c. and in the after body (2), 1, 3, 5, &c.: hence the distance between the frame perpendiculars will be double the room and space expressed in the dimensions. Then set off the heights of the gun-deck afore at midship or dead flat, and abaft from the upper side of the keel; and a curve described through these three points will be the upper side of the gun-deck. Set off the thickness of the gun-deck plank below that; and another curve being drawn parallel to the former, the

gun-deck will then be described at the middle line of the sheer plan.

The centre of the stem is then to be laid down by means of the table of dimensions; from which centre, with an extent equal to the nearest distance of the upper edge of the keel, describe a circle upwards: describe also another circle as much without the former as the stem is moulded. Then set off the height of the head of the stem, with the distance afore the perpendicular, and there make a point; and within that set off the moulding of the stem, and there make another point: from this last mentioned point let a line pass downwards, intersecting the perpendicular at the height of the gun-deck, and breaking in fair with the inner circle, and the after part of the stern is drawn. Draw another line from the foremost point downwards, parallel to the former, and breaking in fair with the outer circle; then the whole stem will be formed, except the after or lower end, which cannot be determined till hereafter.

The stern-post must be next formed. Set off on the upper edge of the keel a spot for the aft part of the rabbet taken from the dimensions, and from that forward set off another point at the distance of the thickness of the plank of the bottom, which is 4 $\frac{1}{2}$ inches; and from this last mentioned point draw a line upwards intersecting the perpendiculars at the height of the lower deck;

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deck; then set up the perpendicular the height of the wing transom, and draw a level line, and where that line intersects, the line first drawn will be the aft side of the wing transom; on the upper part of the middle line set off from that place the distance of the aft side of the stern-post; set off also the distance of the after part from the rabbet on the upper edge of the keel, and a line drawn through these two points will be the aft side of the post. A line drawn parallel to the first drawn line at the distance of $4\frac{1}{2}$ inches, the thickness of the plank on the bottom, will be the aft side of the rabbet: and hence the stern-post is described, except the head, which will be determined afterwards.

From the dimensions take the several heights of the upper deck above the gun-deck, afore, at midship, and abaft, and set them off accordingly; through these points describe a curve, which will be the under side of the upper deck; describe also another curve parallel thereto, at the distance of the thickness of the plank, and the upper deck will be then represented at the middle line of the ship.

Set off the height of the lower counter, at the middle line, from the upper edge of the keel, and draw a horizontal line with a pencil; then on the pencil line set off the distance the touch of the lower counter is abaft the aft side of the wing transom: from this point to that where the fore part of the rabbet of the stern-post intersects the line drawn for the upper part of the wing transom, draw a curve at pleasure, which curve will represent the lower counter at the middle line. The height of the upper counter is then to be set off from the upper edge of the keel, and a horizontal line is to be drawn as before, setting off the distance the touch of the upper counter is abaft the aft side of the wing transom; and a curve described from thence to the touch of the lower counter will form the upper counter at the middle line.

Both counters being formed at the middle line, the upper part of the stern timber above the counters is to be described as follows: On the level line drawn for the upper side of the wing transom set off the distance of the aft side of the stern timber at the middle line from the aft side of the wing transom, at the height of the top-timber line, and erect a perpendicular: then upon this perpendicular, from the upper edge of the keel, set off the height at the middle line of the top-timber line at the after side of the stern timber; through this point draw a straight line to the touch of the upper counter, and the upper part of the stern timber will be described.

As the stern rounds two ways, both up and aft, the stern timber at the side will consequently alter from that at the middle line, and therefore remains to be represented. Take the round up of the upper counter from the dimensions, and set it below the touch at the middle, and with a pencil draw a level line; take also the round aft, and set it forward from the touch on the touch line, and square it down to the pencil line last drawn, and the point of intersection will be the touch of the upper counter at the side. In the same manner find the touch of the lower counter; and a curve, similar to that at the middle line, being described from the one touch to the other, will form the upper counter at the side.

Take the round up of the wing transom, and set it off below the line before drawn for the height of the

wing transom, and draw another horizontal line in pencil: then take the round aft of the wing transom, and set it forward on the upper line from the point representing the aft side of the wing transom; square it down to the lower line, and the intersection will be the touch of the wing transom: then a curve, similar to that at the middle line, being drawn from the touch of the wing transom to the touch of the lower counter at the side, will be the lower counter at the side. Draw a line from the upper counter upwards, and the whole stern-timber at the side will be represented. But as the straight line drawn for the upper part of the side timber should not be parallel to that at the middle line, its rake is therefore to be determined as follows.

Draw a line at pleasure, on which set off the breadth of the stern at the upper counter; at the middle of this line set off the round aft of the upper counter, then through this point and the extremities of the stern describe a curve. Now take the breadth of the stern at the top-timber line, and through the point where that breadth will intersect the curve for the round aft of the stern draw a line parallel to that first drawn, and the distance from the line last drawn to the curve at the middle of the line is the distance that the side timber must be from the middle line at the height of the top-timber line.

The sheer is to be described, which is done by setting off the heights afore, at midships, and abaft, and a curve described through these three points will be the sheer. But in order that the sheer may correspond exactly with the dimensions laid down, it will be necessary to proceed as follows: The perpendicular representing timber dead flat being already drawn, set off from that the distances of the other frame timbers, which is double the room and space, as the frames are only every other one; and erect perpendiculars, writing the name under each: then on each of these perpendiculars set off the corresponding heights of the top-timber line taken from the table of dimensions for constructing the bodies; and through these points a curve being described, will represent the sheer of the ship or top timber line agreeable to the dimensions.

The quarter-deck and fore-castle are next to be described, which may be done by taking their respective heights and lengths from the dimensions, and describing their curves. In the same manner also, the round-house may be drawn. The decks being described representing their heights at the middle, it is then necessary to represent them also at the side. For this purpose take the round of the decks from the dimensions, and set them off below the lower line drawn for the middle, and a curve described both fore and aft, observing to let it be rather quicker than the former, will be the representation of the decks at the side.

The ports come next under consideration. In the placing of them due attention must be paid, so as to preserve strength; or that they shall be so disposed as not to weaken the ship in the least, which is often done by cutting off principal timbers, placing them in too large openings, having too short timbers by the side of them, &c. The frames represented by the lines already drawn must be first consulted. Then with a pencil draw two curves, for the lower and upper parts of the lower deck posts, parallel to the line representing the lower deck; the distances of these lines from

the

Fig. 27.

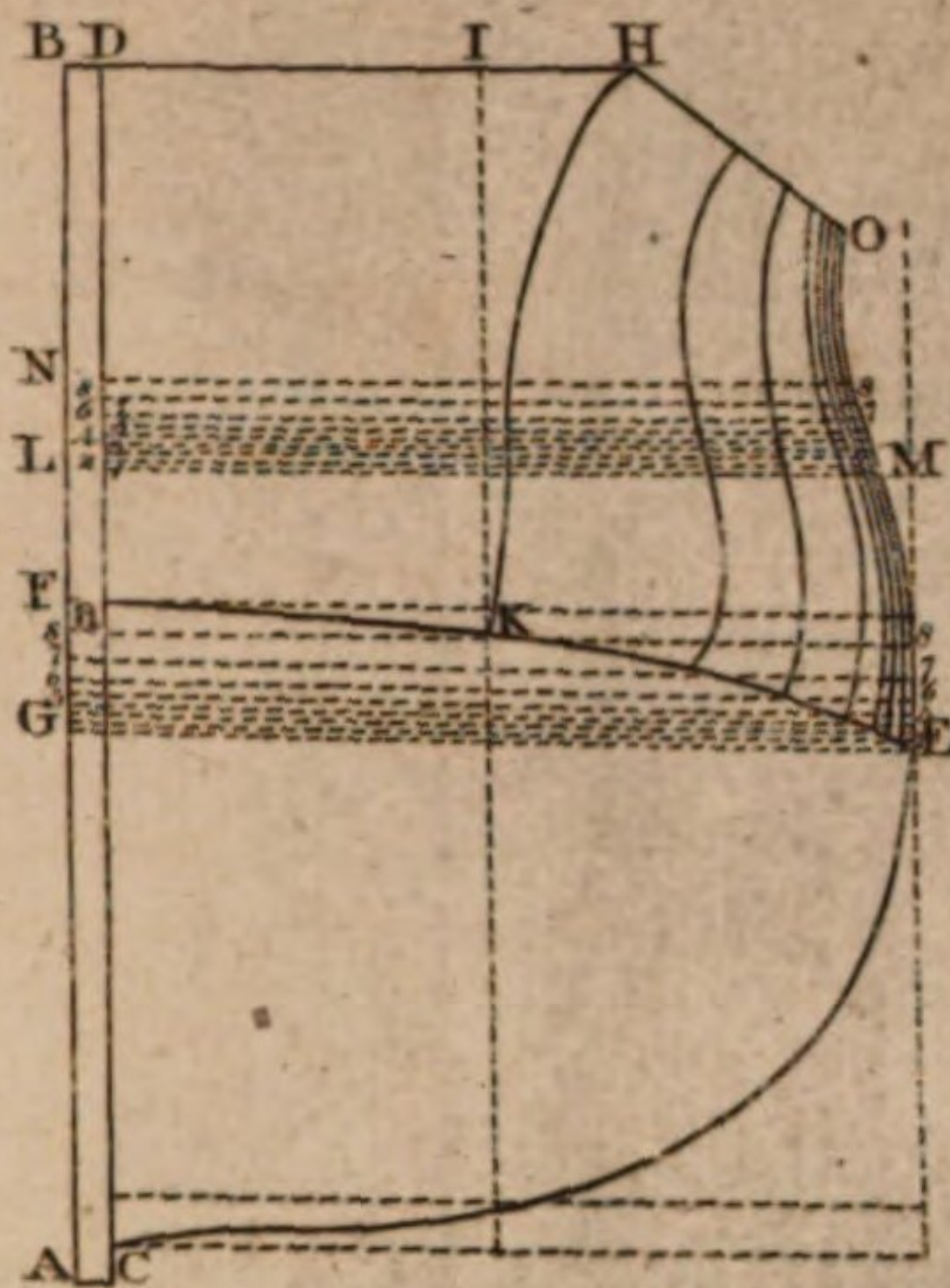


Fig. 28.

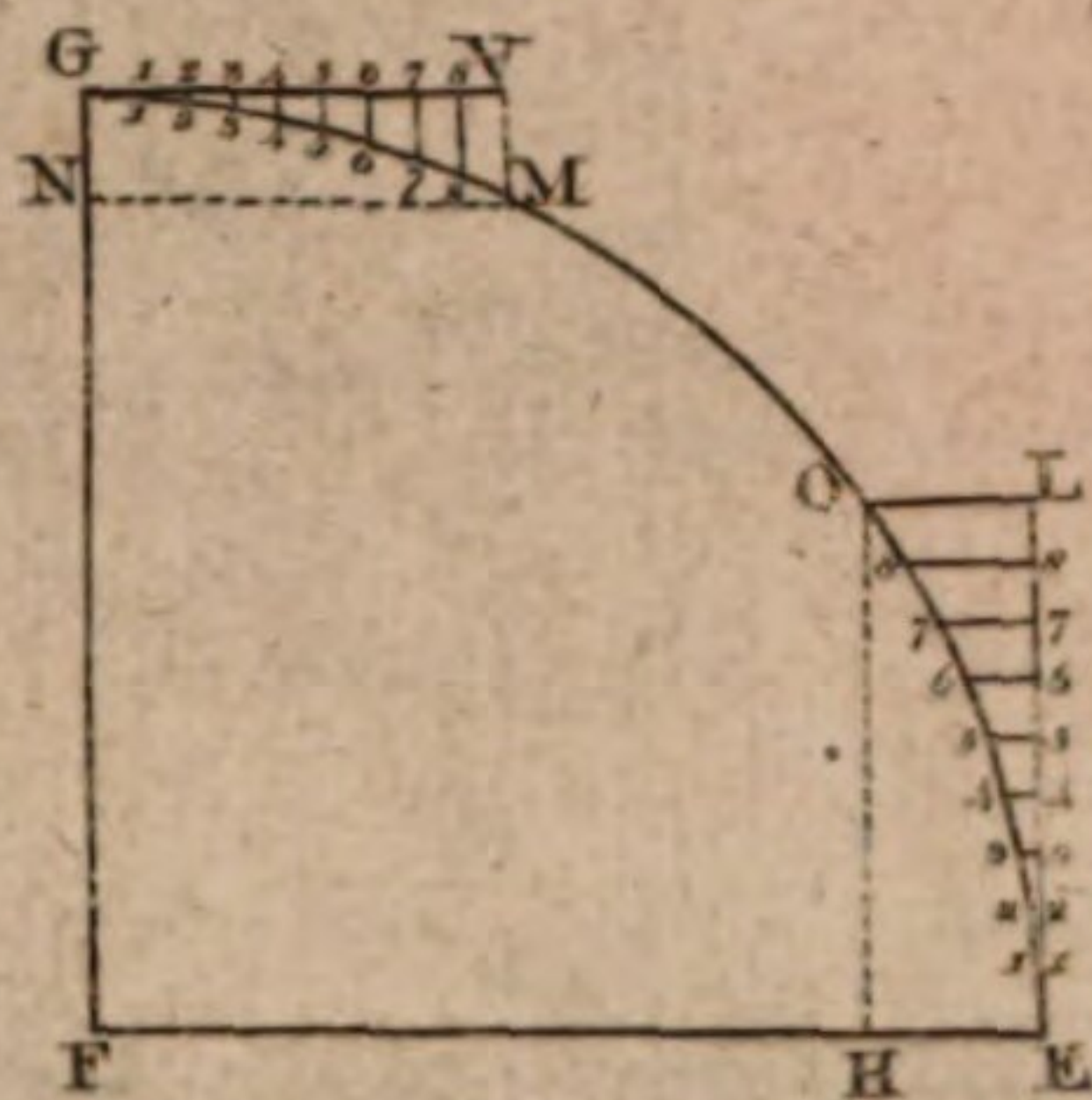


Fig. 29.

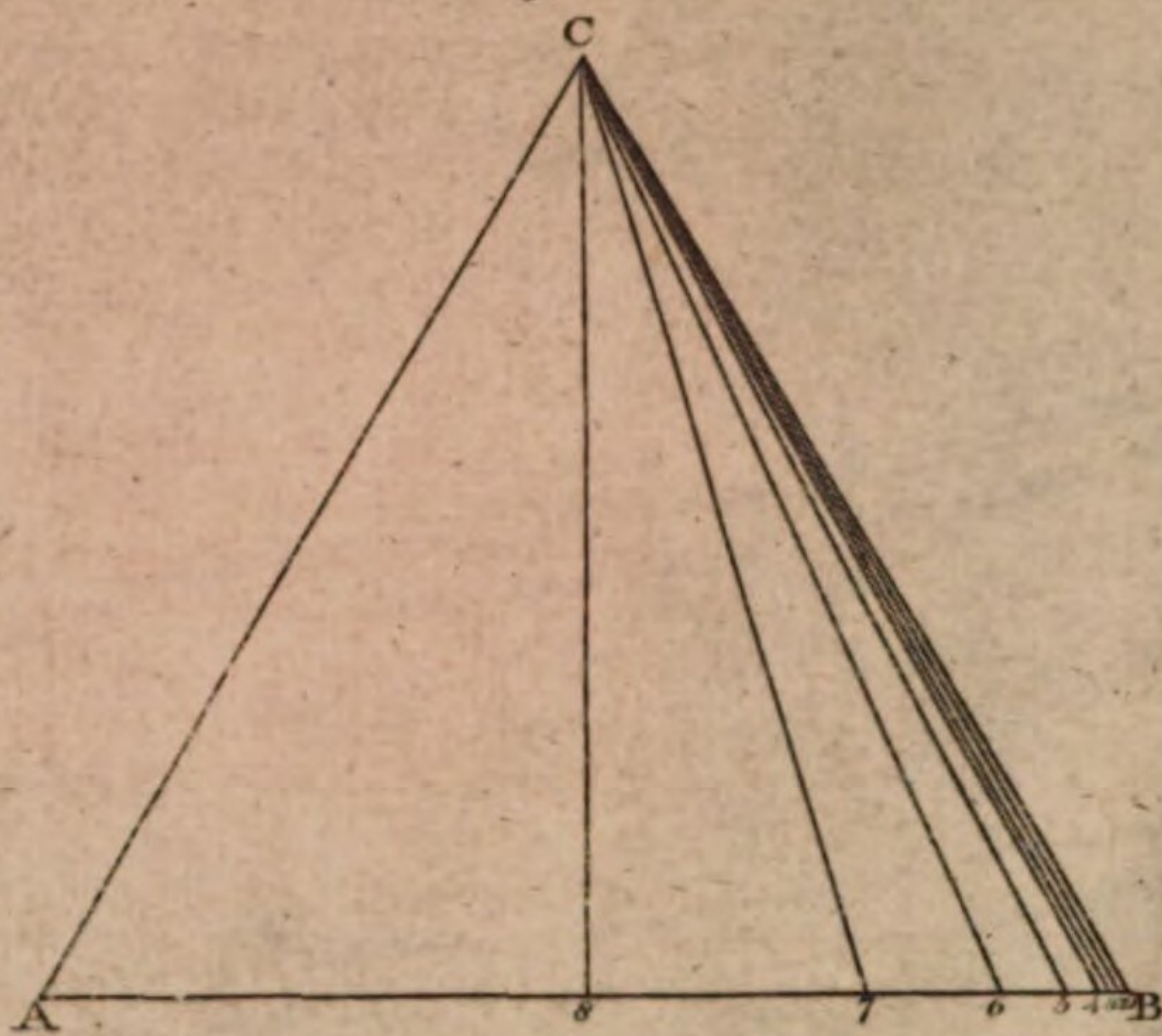
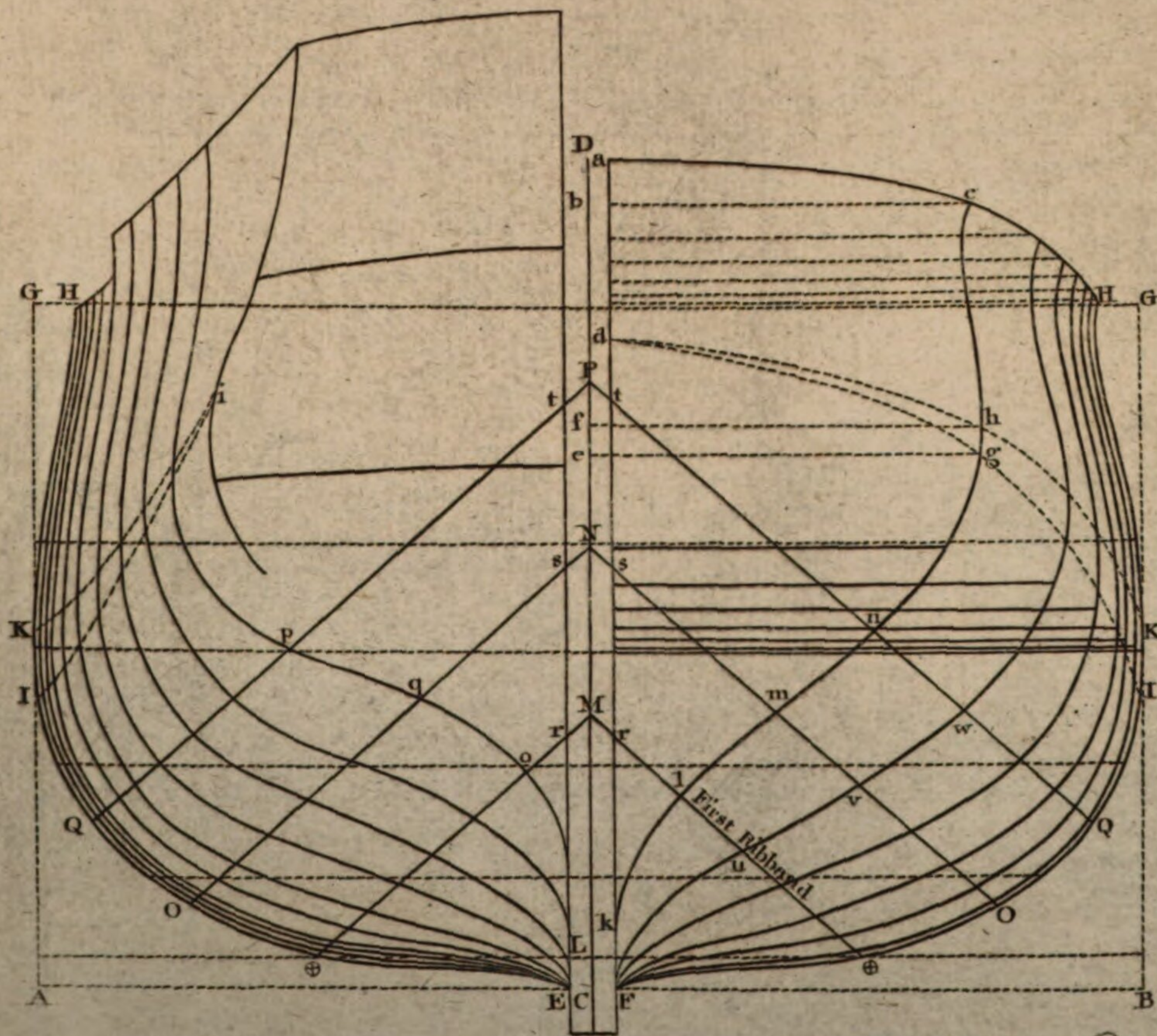


Fig. 32.



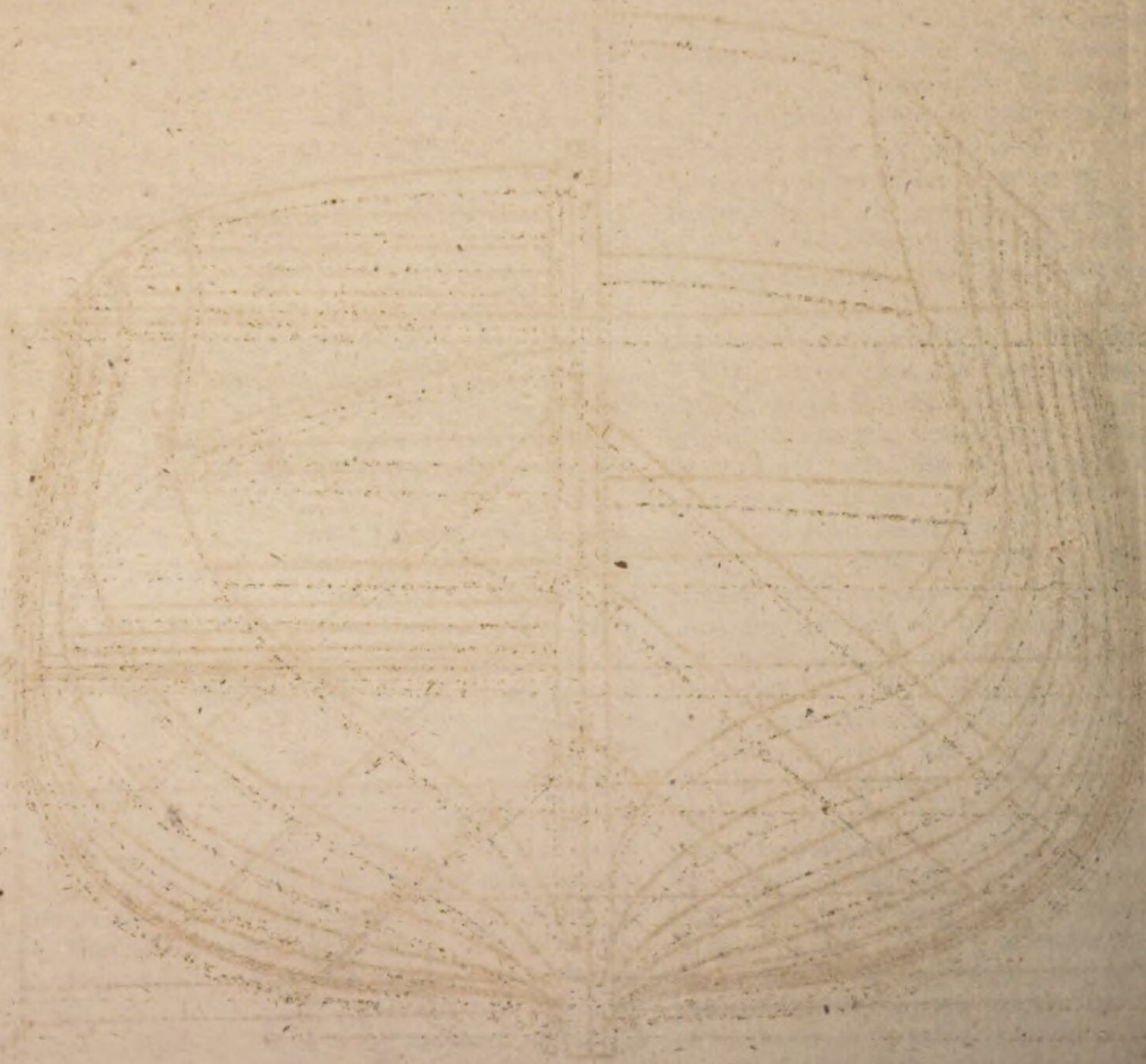
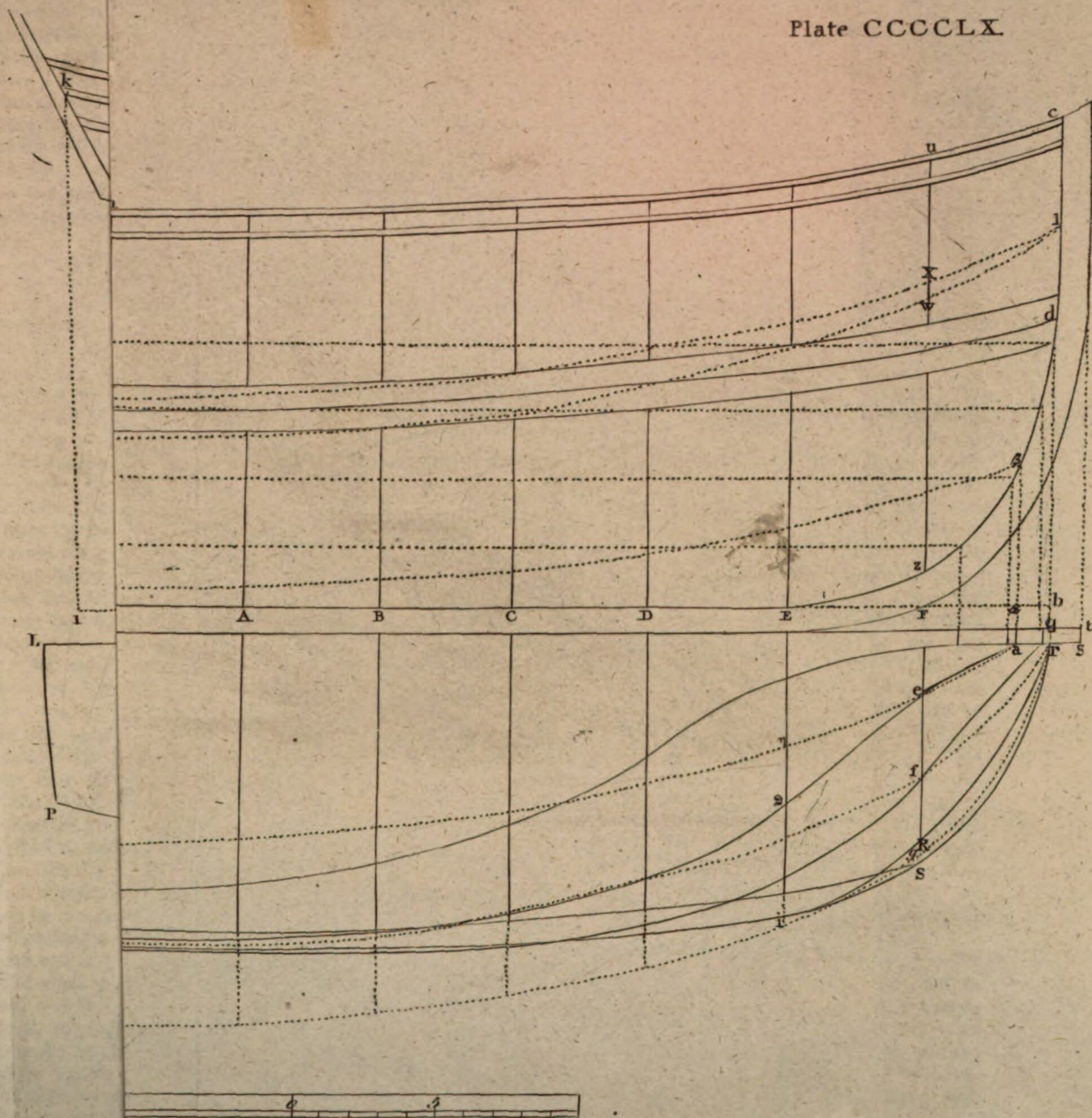


Plate CCCCLX



A. Bell Prin. Wal. Sculptor fecit

Application of the fore-going Rules to the Construction of Ships. the deck are to be taken from the dimensions, observing, however, to add to these heights the thickness of the deck, as the deck line at the side represents the under part of the deck.

The foremost port is then to be described, observing to place it as far aft as to give sufficient room for the manger: the most convenient place will therefore be to put it between the frames R and T, and equally distant from each. It will then be placed in the most conspicuous point of strength, as it will have a long top-timber on the aft side and a long fourth futtock on the fore side of it. The second port may be placed in like manner between the next two frames, which will be equally well situated for strength as the former; and by proceeding in this manner, the ports on the gun-deck may also be placed, taking care to have two frames between every two ports, all fore and aft.

The upper-deck ports are then to be described; and in order to dispose of them in the strongest situation possible, they must be placed over the middle between the gun-deck ports, so that every frame in the ship will run up to the top of the side, by their coming between a gun and upper deck port; and every port will be between the frames, which will in a great measure contribute towards the strength of the ship. With regard to the ports on the quarter deck, it is not of such material consequence if they cut the head of the frame, as in placing them the situation of the dead eyes must be considered, placing a port where there is a vacancy between the dead eyes large enough to admit of one; observing always to place them as nearly as possible at equal distances from each other; and where it happens that they do not fall in the wake of a frame, then that frame must by all means be carried up to the top of the side.

The necessary length of the round-house being determined in the dimensions, it may be set off; observing, however, to let it be no longer than is just sufficient for the necessary accommodations, as the shorter the round-house the works abaft may be kept lower, and a low snug stern is always accounted the handsomest. Then set off the round of the deck at the foremost end, below the line drawn; the deck at the side may be described by another curve drawn quite aft. Now, from the point for the round of the deck to the stern timber, draw a curve parallel to the top-timber line, and that will be the extreme height of the top of the side abaft, which height continues to range fair along to the foremost end of the round house, and at that place may have a fall about 14 inches, which may be turned off with a drift scroll. At the fore part of the quarter-deck, the topside may have a rise of 14 inches, which may also be turned off with a scroll. But as the raising of the topside only 14 inches at that place will not be sufficient to unite with the heights abaft, it will therefore be necessary to raise 14 inches more upon that, and break it off with a scroll inverted on the first scroll, and continue these two lines, parallel to the top-timber line, to the distance of about seven feet aft. At the foremost end of the round-house there is a break of 14 inches already mentioned; and in order to make that part uniform with the breaks at the foremost end of the quarter-deck, there must be set down 14 inches more below the former; and at these two heights continue two

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Application of the fore-going Rules to the Construction of Ships. curves parallel to the top-timber line, from the aft part of the stern to the ends of the two curves already drawn at the foremost end of the quarter-deck. If they should happen not to break in fair with them, they must be turned off with a round; but to make them appear more handsome, the lower line may be turned off with a scroll. These lines, being drawn will represent the upper edges of the rails.

The height of the top side at the fore part of the ship must next be considered; which, in order to give proper height for the fore-castle, must have a rise there of 14 inches, the break being at the after end of the fore-castle, and turned off as before. But as this part of the ship is still considerably lower than the after part, it will be necessary to give another of eight inches upon the former, and turn it off with a scroll inverted. Hence this part of the ship will appear more uniform to the after part.

The finishing parts, namely the wales, stern, head, rails, &c. remain to be described. The wales may be first drawn; and as the strength of the ship depends very much on the right placing of them, great care must therefore be taken that they may be as little as possible wounded by the lower deck ports, and so placed that the lower deck bolts shall bolt in them, and also that they come as near as possible on the broadest part of the ship. In the first place, therefore, the height of breadth lines must be chosen for our guide. These heights of breadth are to be taken from the dimensions, and set off on the respective frames, and curves drawn through these points will be the upper and lower heights of breadth lines. The height of the wales may now be determined; which in general is in such a manner that the upper height of breadth line comes about six inches below their upper edge, and the wales are then placed right upon the breadth lines. Take the heights and breadths of the wales afore, at midships, and abaft from the table of dimensions; draw curves through the points thus found, and the wales will be represented.

The channel wales are then to be described. They are principally intended to strengthen the top side, and must be placed between the lower and upper deck ports; and the lower edge of them at midships should be placed as low as possible, in order to prevent them from being cut by the upper deck ports afore and abaft. Take their heights and breadths from the dimensions; lay them off, and describe curves through the corresponding points, and the channel wales will be represented.

Lay off the dimensions of the waste rail found in the table; and through the points draw a line parallel to the top-timber line all fore and aft. This rail terminates the lower part of the paint work in the top side, as all the work above this rail is generally painted, and the work of the top side below it payed with a varnish, except the main wales, which are always payed with pitch.

Take the draught of water from the dimensions, and draw the load water-line, which is always done in green. Divide the distance between the load water-line and the upper edge of the keel into five equal parts, and through these points draw four more water-lines.

Set off the centres of the masts on the gun-deck; their rake may likewise be taken from the dimensions. Set off also the centre of the bowsprit, letting it be

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four feet from the deck at the after part of the stem, which will give sufficient height for a light and airy figure.

Draw the knight-heads so as to be sufficiently high above the bowsprit to admit of a chock between them for the better security of the bowsprit. The timber heads may also be drawn above the forecastle, observing to place the most convenient for the timbers of the frame, being those which come over the upper deck ports, as they may be allowed long enough to form handsome heads. There should be one placed abaft the cat-head, to which the foremost block is to be bolted, and there may be two ports on the forecastle formed by them, and placed where it is most convenient to the dead eyes.

Describe the channels, taking their lengths and thicknesses from the dimensions, and place their upper edges well with the lower edge of the sheer rail. The dead eyes may then be drawn, observing to place them in such a manner that the chains may not interfere with the ports; and the preventer plates must all be placed on the channel wales, letting them be of such a length that the preventer bolt at each end may bolt on each edge of the channel wales. It must also be observed to give each of the chains and preventer plates a proper rake, that is, to let them lie in the direction of the shrouds, which may be done in the following manner: Produce the mast upwards, upon which set off the length of the mast to the lower part of the head; these straight lines drawn from that point through the centre of each dead eye will give the direction of the chains and preventer braces.

The fenders may be then drawn, observing to place them right abreast of the main hatchway, in order to prevent the ship's side from being hurt by whatever may be hoisted on board. The proper place for them will therefore be at timber 3; and the distance between them may be regulated by the distance between the ports. The chest-tree may also be drawn, which must be placed at a proper distance abaft the foremast, for the convenience of hauling home the fore tack. It may therefore be drawn at the aft side of timber C, from the top of the side down to the upper edge of the channel wales; and the fenders may reach from the top of the side down to the upper edge of the main wales. As the fenders and chest-tree are on the outside of the planks, wales, &c. the lines representing the wales, &c. should not be drawn through them.

Draw the steps on the side, which must be at the fore part of the main drift or break, making them as long as the distance between the upper and lower deck ports will admit of. They may be about six inches asunder, and five inches deep, and continued from the top of the side down to the middle of the main wales.

In order to describe the head, the height of the beak-head must be first determined, which may be about two feet above the upper deck. At that place draw a horizontal line, upon which set off the length of the beak-head, which may be $7\frac{1}{2}$ feet abaft the fore part of the stem, and from thence square a line up to the forecastle deck; which line will represent the aft part of the beak-head, and will likewise terminate the foremost end of the forecastle. The length of the head may now be determined, which by the proportions will be found to be 15 feet six inches from the fore part of the stem. Set it off from

the fore part of the stem, and erect a perpendicular, which will be the utmost limits of the figure forward: then take the breadth of the figure from the proportions, which is four feet four inches, and set it off forward; and another perpendicular being drawn will show the utmost extent of the hair bracket forward, or aft part of the figure. Then draw the lower cheek, letting the upper edge be well with the upper edge of the main wales, and the after end ranging well with the beak-head line; set off the depth of it on the stem; which is about 11 inches, and let a curved line pass from the after end through the point on the stem, and to break in fair with the perpendicular first drawn for the length of the head, the fore part of the curve will then represent the position of the figure.

The upper cheek may be next drawn; but, in order to know the exact place of it on the stem, the place of the main rail must first be set off on the stem, the upper edge of which may be kept on a level with the beak-head; then setting off the depth of it below that, the place for the upper cheek may be determined, letting it be exactly in the middle between that and the lower cheek: then, by drawing curves for the upper and lower edges of the cheek from the after end parallel to the lower cheek, to break in fair with the perpendicular, drawn for the back of the figure: then the upper cheek will be formed. The upper part may run in a serpentine as high as where the shoulder of the figure is supposed to come, at which place it may be turned off with a scroll. The distance from the scroll to the heel of the figure is called the hair-bracket.

The head of the block may be formed by continuing the line at the breast round to the top of the hair-bracket, observing to keep the top of it about six inches clear of the under side of the bowsprit.

Having the distance set off on the stem for placing the main rail, it may next be described, keeping the bag of it as level as possible for the convenience of the gratings, and letting the foremost end rise gradually according to the rise of the upper cheek and hair-bracket, and may turn off on the round of the scroll before drawn for the hair-bracket. To form the after end, set off the size of the head of the rail abaft the beak-head line, and erect a perpendicular; then describe the arch of a circle from that perpendicular to break in fair with the lower side of the rail in the middle, and also another from the beak-head perpendicular, to break in fair with the upper side of the rail at the middle, observing to continue the head of it sufficiently high to range with the timber heads above the forecastle.

The head timbers are next to be drawn, placing the stem timber its own thickness abaft the stem, and the foremost must be so placed that the fore side may be up and down with the heel of the block or figure, which has not yet been set off. Take therefore the distance from the breast to the heel on a square which is seven feet, and erect a perpendicular from the lower part of the lower cheek to the lower part of the upper cheek; which perpendicular will terminate the foremost end of the lower cheek and the heel of the figure, and will also terminate the lower end of the hair-bracket: then, by continuing the same perpendicular from the upper part of the lower deck to the under part of the main rail, the fore side of the foremost head timber will be described; and by setting off its thickness aft, the other side may be drawn. The middle head timber may be spaced between the two former ones; and there may also be one

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timber placed abaft the stem, at a distance from the stem, equal to that between the others, and the lower end of it may step on the upper edge of the lower rail.

To describe the middle and lower rails, divide the distance between the lower part of the main rail and the upper part of the upper cheek equally at every head timber; and curves being described through these points will form the middle and lower rails. The after end of the lower rail must terminate at the after edge of the after head timber.

The cat-head ought to be represented in such a manner as to come against the aft side of the head of the main rail, to rake forward four inches in a foot, and to steeve up $5\frac{1}{2}$ inches in a foot, and about one foot six inches square. The lower part of it comes on the plank of the deck at the side, and the supporter under it must form a fair curve to break in with the after end of the middle rail.

The hawse holes must come between the cheeks, which is the most convenient place for them; but their place fore and aft cannot be exactly determined until they are laid down in the half-breadth plan.

The knee of the head is to project from the breast of the figure about two inches; and particular care must be taken that in forming it downwards it be not too full, as it is then liable to rub the cable very much: it may therefore have no more substance under the lower cheek at the heel of the figure than is just sufficient to admit of the bobstay holes, and may be $3\frac{1}{2}$ feet distant from the stem at the load water-line, making it run in an agreeable serpentine line from the breast down to the third water line, where it may be $1\frac{1}{2}$ feet from the stem. By continuing the same line downwards, keeping it more distant from the stem as it comes down, the gripe will be formed. The lower part of it must break in fair with the under part of the false keel; and the breadth of the gripe at the broadest place will be found by the proportions to be $4\frac{1}{2}$ feet. As the aft part of the gripe is terminated by the fore foot, or foremost end of the keel, it will now be proper to finish that part as follows: From the line representing the upper edge of the keel set down the depth of the keel, through which draw a line parallel to the former, and it will be the lower edge of the keel. From that point, where the aft side of the stem is distant from the upper edge of the keel by a quantity equal to the breadth of the keel at midships, erect a perpendicular, which will limit the foremost end of the keel; and the after or lower end of the stem may be represented by setting off the length of the scarf from the foremost end of the keel, which may be six feet. Set down from the line representing the lower edge of the keel the thickness of the false keel, which is seven inches; and a line drawn through that point parallel to the lower edge of the keel will be the under edge of the false keel, the foremost end of which may be three inches afore the foremost end of the main keel.

The head being now finished, proceed next to the stern, the side and middle timbers of which are already drawn. From the side timber set off forward 14 feet, the length of gallery, and draw a pencil line parallel to the side timber; draw also a line to intersect the touch of the upper counter at the side, producing it forwards parallel to the sheer as far as the pencil line first drawn;

and this line will represent the upper edge of the gallery rim. From which set down eight inches, the breadth of the gallery rail, and draw the lower edge of the rail. At the distance of eight inches from the fore side of the side timber draw a line parallel thereto; and from the point of intersection of this line with the upper edge of the gallery rim, draw a curve to the middle timber parallel to the touches of the upper counter, which line will represent the upper edge of the upper counter rail as it appears on the sheer draught. The lower edge of this rail may be formed by setting off its depth from the upper edge. In the same manner the lower counter rail may be described: then take the distance between that and the upper counter rail, and set it off below the rim rail; and hence the rail that comes to the lower stool may be drawn, keeping it parallel to the rim rail. Underneath that, the lower finishing may be formed, making it as light and agreeable as possible.

Set off from the middle timber on the end of the quarter-deck the projection of the balcony, which may be about 2 feet, and draw a line with a pencil parallel to the middle timber. On this line set off a point $1\frac{1}{2}$ inches below the under side of the quarter-deck, from which draw a curve to the side timber parallel to the upper counter rail, which curve will represent the lower side of the foot space rail of the balcony as it appears in the sheer draught.

Take the distance between the point of intersection of the upper edge of the upper counter with the middle line, and the point of intersection of the under side of the foot space rail with the middle line, which set up on a perpendicular from the upper edge of the rim rail at the foremost end. Through this point draw a line parallel to the rim rail to intersect the lower part of the foot space rail, and this line will represent the lower edge of the rail that comes to the middle stool, and will answer to the foot space rail. Then between this line and the rim rail three lights or sashes may be drawn, having a muntin or pillar between each light of about 14 inches broad, and the lower gallery will be finished. Set off the depth of the middle stool rail above the line already drawn for the lower edge, and the upper edge may be drawn. Then set off the same depth above the curve drawn for the lower edge of the foot space rail, and the upper edge of that rail may then be drawn.

The quarter-piece must be next described, the heel of which must step on the after end of the middle stool. Draw a line with a pencil parallel to the middle timber, and at a distance therefrom, equal to the projection of the balcony. Upon this line set up from the round house deck the height of the upper part of the stern or taff rail, which may be four feet above the deck. At that height draw with a pencil a horizontal line, and from its intersection with the line first drawn describe a curve to the middle stool rail, observing to make the lower part of this curve run nearly parallel to the side timber, and the lower part about three inches abaft the side timber; and this curve will represent the aft side of the quarter-piece at the outside. There set off the thickness of the quarter-piece, which is one foot six inches, afore the curve already drawn; and another curve being described parallel to it from the lower part to the top of the sheer, and the quarter-piece

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at the outside will be represented. On the horizontal line drawn for the upper part of the taff-rail set off forward the thickness of the taff-rail, which is one foot; then draw a curve down to the head of the quarter-piece parallel to the first, and that part of the taff-rail will be described. Instead of a fair curve, it is customary to form the upper part of the taff-rail with one or two breaks, and their curves inverted. Either way may, however, be used according to fancy.

Set off the depth of the taff rail, which may be about $3\frac{1}{2}$ feet, on the line drawn for the projection; from the upper part, and from this point, describe a curve as low as the heel of the quarter-piece, and about five inches abaft it at that place; observing to make it run nearly parallel to the after edge of the quarter-piece; and the after part of the quarter-piece, which comes nearest to the side, will be represented.

Set up on the line drawn for the projection of the balcony the height of the upper part of the balcony or breast rail, which is $3\frac{1}{2}$ feet from the deck; set off the thickness of the rail below that, and describe the balcony, keeping it parallel to the foot space rail, and terminating it at the line drawn for the after part of the quarter-piece nearest the side; and the whole balcony will then be represented.

The upper gallery is then to be described. In order to this, its length must be determined, which may be 11 feet. Set off this distance from the side timber forward with the sheer; and at this point draw a line parallel to the side timber, which line will represent the fore part of the gallery. Then take the distance between the upper part of the foot space rail and the upper part of the breast rail on a perpendicular, and set it off on a perpendicular from the upper part of the middle stool rail on the line drawn for the fore part of the gallery, from which to the fore part of the quarter piece draw a straight line parallel to the rail below, which line will be the upper edge of the upper rim rail; and its thickness being set off, the lower edge may also be drawn. From the upper edge of that rail set up an extent equal to the distance between the lower rim rail and middle stool rail, and describe the upper stool rail, the after end of which will be determined by the quarter piece, and the fore end by the line for the length of the gallery. There may be three sashes drawn between these two rails as before; and hence the upper gallery will be formed.

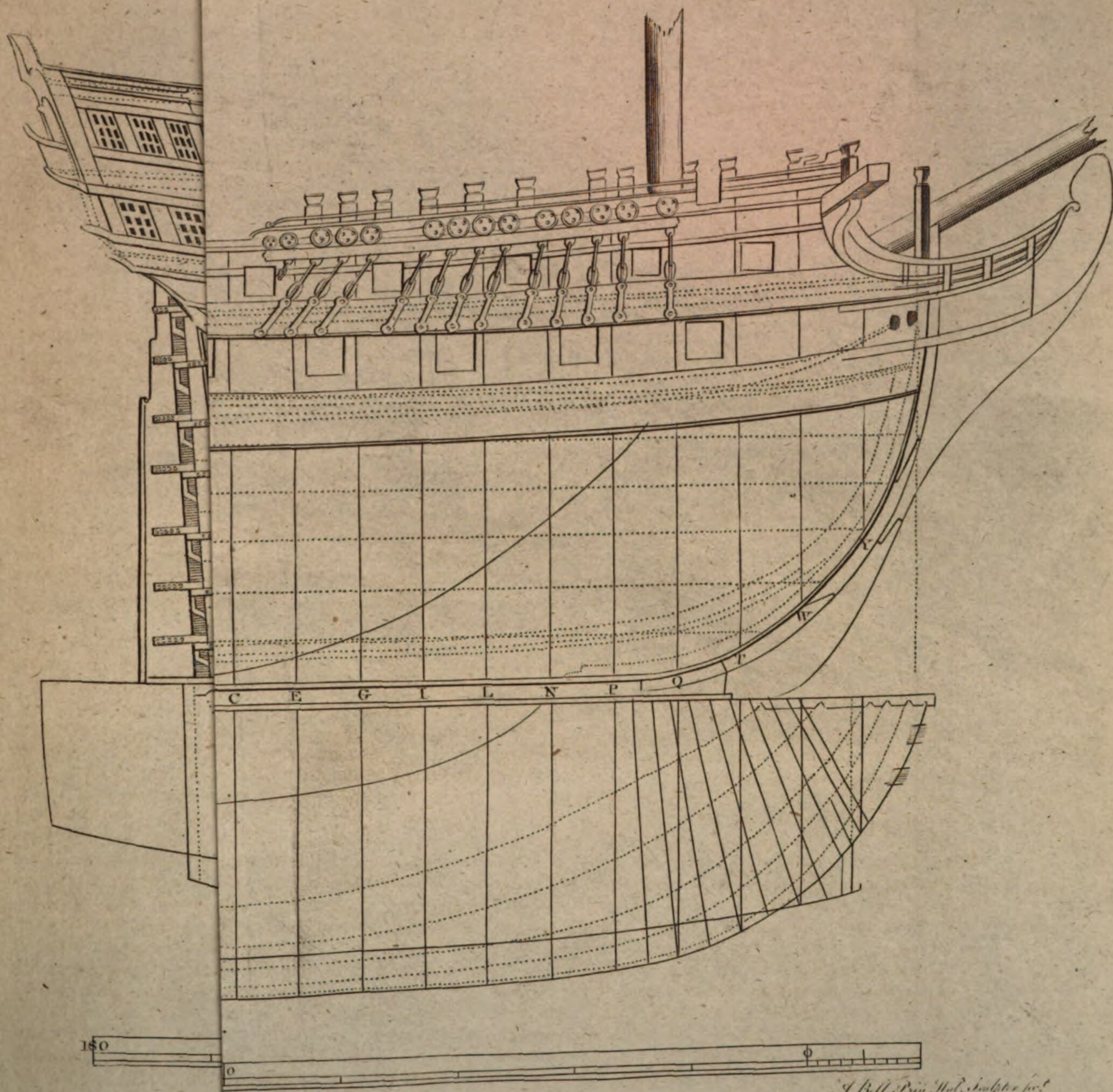
The upper finishing should be next drawn, the length of which may be $1\frac{1}{2}$ foot less than the upper gallery. Draw a line parallel to the rake of the stern for the fore end of it, and let the upper part of the top side be the upper part of the upper rail, from which set down three inches for the thickness of the rail, and describe it. Describe also another rail of the same length and thickness as the former, and eight inches below; from the end of which a serpentine line may be drawn down to the upper stool rail, and the upper finishing will be completed.

The stern being now finished, the rudder only remains to be drawn. The breadth of the rudder at the lower part is to be determined from the proportions, and set off from the line representing the aft part of the stern-post; which line also represents the fore part of the rudder. Then determine on the lower hance, letting it be no higher than is just sufficient, which may be about

one foot above the load water-line, and set off its breadth at that place taken from the proportions. Then a line drawn from thence to the breadth set off at the lower part will be the aft side of the rudder below the lower hance. There may also be another hance about the height of the lower deck. The use of these breaks or hances is to reduce the breadth as it rises toward the head. The aft part may be drawn above the lower hance, the break at the lower hance being about ten inches, and the break at the upper hance six inches. — The back may be then drawn. It is of elm, about four inches thick on the aft part. That thickness being set off, and a line drawn from the lower hance to the lower end, will represent the back. The head of the rudder should be as high as to receive a tiller above the upper deck. Therefore set off the size of the head above the upper deck, and draw a line from thence to the break at the upper hance, and the aft part of the rudder will be represented all the way up. The bearding should be drawn, by setting off the breadth of it at the keel from the fore side of the rudder, which may be nine inches. Set off also the breadth at the head of the wing transom, which may be a foot. Then a line being drawn through these two points; from the lower part of the rudder to about a foot above the wing transom, and the bearding will be represented. As the bearding is a very nice point, and the working of the rudder depending very much upon it, it should always be very particularly considered. It has been customary to beard the rudder to a sharp edge at the middle line, by which the main piece is reduced more than necessary. The rudder should, however, be bearded from the side of the pintles, and the fore side made to the form of the pintles.

The pintles and braces may next be drawn. In order to which determine the place of the upper one, which must be so disposed that the straps shall come round the head of the standard, which is against the head of the stern-post on the gun-deck, and meet at the middle line. By this means there is double security both to the brace and standard. To obtain those advantages, it must therefore be placed about four inches above the wing transom; the second must be placed just below the gun-deck so as to bolt in the middle of the deck transom, and the rest may be spaced equally between the lower one, which may be about six inches above the upper edge of the keel. The number of them are generally seven pair upon this class of ships; but the number may be regulated by the distance between the second and upper one, making the distance between the rest nearly the same. The length of all the braces will be found by setting off the length of the lower one, which may be eight feet afore the back of the stern-post, and also the length of the third, which is four feet and a half afore the back of the stern-post; and a line drawn from the one extremity to the other will limit the intermediate ones, as will appear on the sheer draught. The braces will seem to diminish in length very much as they go up; but when measured or viewed on the shape of the body, they will all be nearly of an equal length. The length of the straps of the pintles which come upon the rudder may all be within four inches of the aft side of the rudder; and the rudder being a flat surface, they will all appear of the proper lengths.

II. Of the half-breadth and body plans. — The half-breadth



J. Bell Prin. Mod. Sculptor for.

Application of the foregoing Rules to the Construction of Ships. breadth plan must be first drawn. Then produce the lower edge of the keel both ways, and let it also represent the middle line of the half-breadth plan. Produce all the frames downwards, and also the fore and after perpendiculars. Then from the place in the sheer plan, where the height of breadth-lines intersect the stem, square down to the middle line the fore and aft part of the rabbet and the fore part of the stem. Take from the dimensions what the stem is sided at that place, and set off half of it from the middle line in the half-breadth plan, through which draw a line parallel to the middle line through the three lines squared down, and the half-breadth of the stem will be represented in the half-breadth plan. Take the thickness of the plank of the bottom, which is $4\frac{1}{2}$ inches, and describe the rabbet of the stem in the half-breadth plan.

From the points of intersection of the height of breadth lines with the counter timber at the side, and with the counter timber at the middle line, draw lines perpendicular to the middle line of the half-breadth plan, from which set off the half breadth of the counter on the line first drawn; and from this point to the intersection of the line last drawn, with the middle line draw a curve, and the half breadth of the counter will be represented at the height of breadth, which will be the broadest part of the stern.

Take the main half breadth of timber dead flat from the dimensions, and lay it off from the middle line on dead flat in the half-breadth plan. Take also from the dimensions the main half breadth of every timber, and set off each from the middle line on the corresponding timbers in the half-breadth plan. Then a curve drawn from the end of the line representing the half breadth of the counter through all the points, set off on the timbers, and terminating at the aft part of the stern, will be the main half breadth line. Take from the dimensions the top-timber half breadth, and describe the top-timber half-breadth-line in the half-breadth plan, in the same manner as the main half-breadth line.

Take from the dimensions the half breadth of the rising, and set it off from the middle line on the corresponding timbers in the half-breadth plan, observing, where the word *outside* is expressed in the tables, the half breadth for that timber must be set off above or on the outside of the middle line. Then a curve drawn through these points will be the half breadth of rising in the half-breadth plan.

It will now be necessary to proceed to the body plan. Draw a horizontal line (fig. 35.), which is called the *base line*, from the right hand extremity of which erect a perpendicular. Then set off on the base line the main half breadth at dead flat, and erect another perpendicular, and from that set off the main half breadth again, and erect a third perpendicular. The first perpendicular, as already observed, is called the *side line* of the fore body; the second the *middle line*; and the third the *side line* of the after body.

Take from the dimensions the heights of the diagonals up the middle line, and set them from the base up the middle line in the body plan. Take also their distances from the middle line on the base, and set them off. Set off also their heights up the side lines, and draw the diagonals. Then take from the sheer plan the heights of the lower height of breadth line, and set them off upon the middle line in the body plan; through these

points lines are to be drawn parallel to the base, and terminating at the side lines. In like manner proceed with the upper height of breadth line.

The rising is next to be set off on the body plan; it must, however, be first described in the sheer plan: Take, therefore, the heights from the dimensions, and set them off on the corresponding timbers in the sheer plan, and a curve described through these points will be the rising line in the sheer plan. Then take from the dimensions the rising heights of dead flat. Set it off in the body plan, and draw a horizontal line. Now take all the rising heights from the sheer plan, and set them off in the body plan from the line drawn for the rising height of dead flat, and draw horizontal lines through these points. Take from the half-breadth plan the half breadths of the rising, and set them off from the middle line in the body plan, and the centres of the floor sweeps of the corresponding timbers will be obtained.

From the half-breadth plan take the main half-breadth lines, and set them off from the middle line in the body plan on the corresponding lines before drawn for the lower height of breadth; and from the extremities of these lines set off towards the middle line the lengths of the lower breadth sweeps respectively.

Take from the dimensions the distance of each frame from the middle line on the diagonals, and set them off from the middle line on their respective diagonal lines. Now these distances being set off, and the lower breadth and floor sweeps described, the shape of the frames below the breadth line may easily be drawn as follows: Place one point of a compass in the distance set off for the length of the lower breadth sweep, and extend the other to the point which terminates the breadth, and describe an arch of a circle downwards, which will intersect the points set off on the upper diagonal lines, letting it pass as low as convenient. Then fix one point of the compasses in the centre of the floor sweep, and extend the other to the point set off on the fourth diagonal, which is the floor head; and describe a circle to intersect as many of the points set off on the diagonals as it will. Then draw a curve from the back of the lower breadth sweep, through the points on the diagonals, to the back of the floor sweep. Describe also another curve from the back of the floor sweep through the points on the lower diagonals, and terminating at the upper part of the rabbet of the keel, and that part of the frame below the breadth will be formed. In like manner describe the other frames.

Through the extremities of the frames at the lower height of breadth draw lines parallel to the middle line, and terminating at the upper height of breadth line, and from thence set off the upper breadth sweeps; now fix one point of the compass in the centres of the upper breadth sweeps successively, and the other point to the extremities of the frames, and describe circles upwards. Then from the sheer plan take off the heights of the top-timber lines, and set them off in the body plan, drawing horizontal lines; upon which set off the top-timber half breadths taken from the corresponding timbers in the half-breadth plan; and by describing curves from the back of the upper breadth sweeps through the points set off on the seventh or upper diagonal; and intersecting the top-timber half breadths, the timbers will then be formed from the keel

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keel to the top of the side. The upper end of the timbers may be determined by taking the several heights of the upper part of the top side above the top-timber line, and setting them off above the top-timber line on the corresponding timbers in the body plan. The lower parts of the timbers are ended at the rabbet of the keel as follows: With an extent of $4\frac{1}{2}$ inches, the thickness of the bottom, and one leg of the compasses at the place where the line for the thickness of the keel intersects the base line; with the other leg describe an arch to intersect the keel line and the base. Then fix one point at the intersection of the arch and keel, and from the point of intersection of the keel and base describe another arch to intersect the former. Then from the intersection of these arches draw one straight line to the intersection of the keel and base, and another to the intersection of the lower arch and the keel, and the rabbet of the keel will be described at the main frame. All the timbers in the middle part of the ship which have no rising terminate at the intersection of the upper edge of the rabbet with the base line; but the lower part of the timbers, having a rising, end in the centre of the rabbet, that is, where the two circles intersect. Those timbers which are near the after end of the keel must be ended by setting off the half-breadth of the keel at the port in the half-breadth plan, and describe the tapering of the keel. Then at the corresponding timbers take off the half-breadth of the keel; set it off in the body plan, and describe the rabbet as before, letting every timber end where the two circles for its respective rabbet intersect.

To describe the side counter or stern timber, take the height of the wing transom, the lower counter, upper counter, and top-timber line at the side; from the sheer plan transfer them to the body plan, and through these points draw horizontal lines. Divide the distance between the wing transom and lower counter into three equal parts, and through the two points of division draw two horizontal lines. Draw also a horizontal line equidistant from the upper counter and the top-timber line in the sheer plan, and transfer them to the body plan.

Now, from the point of intersection of the aft side of the stern timber at the side, with the wing transom at the side in the sheer plan, draw a line perpendicular to the middle line in the half-breadth plan. Draw also perpendicular lines from the points where the upper and lower transoms touch the stern-post; from the points of intersection of the stern timber with the two horizontal lines drawn between, and from the intersection of the stern timber with the horizontal line drawn between the upper counter and top-timber line. Then curves must be formed in the half-breadth plan for the shape of the body at each of these heights. In order to which, begin with the horizontal or level line representing the height of the wing transom in the body plan. Lay a slip of paper to that line, and mark on it the middle line and the timbers 37, 35, 33, and 29; transfer the slip to the half-breadth plan, placing the point marked on it for the middle line exactly on the middle in the half-breadth plan, and set off the half-breadths on the corresponding timbers 37, 35, 33, and 29, and describe a curve through these points, and to intersect the perpendicular drawn from the sheer plan. In like manner proceed with the horizontal lines at the heights of the counters, between the lower counter and wing transom,

above the upper counter and top-timber line; and from the intersections of the curve drawn in the half-breadth plan, with the perpendicular lines drawn from the sheer plan, take the distances to the middle line, and set them off on the corresponding lines in the body plan; then a curve described through the several points thus set off will be the representative of the stern timber.

The round-up of the wing transom, upper and lower counter, may be taken from the sheer draught, and set off at the middle line above their respective level lines in the body plan, by which the round-up of each may be drawn. The round aft of the wing transom may also be taken from the sheer plan, and set off at the middle line, abaft the perpendicular for the wing transom in the half-breadth plan, whence the round aft of the wing transom may be described.

The after body being now finished, it remains to form the fore body; but as the operation is nearly the same in both, a repetition is therefore unnecessary, except in those parts which require a different process.

The foremost timbers end on the stem, and consequently the method of describing the ending of them differs from that used for the timbers used in the after body. Draw a line in the body plan parallel to the middle line, at a distance equal to the half of what the stem is sided. In the sheer plan take the height of the point of intersection of the lower part of the rabbet of the stem with the timber which is required to be ended, and set it off on the line before drawn in the body plan. Then take the extent between the points of intersection of the timber with the lower and upper parts of the rabbet, and with one leg of the compasses at the extremity of the distance laid off in the body plan describe a circle, and the timbers may then pass over the back of this circle. Now, by applying a small square to the timber, and letting the back of it intersect the point set off for the lower part of the rabbet, the lower part of the rabbet and the ending of the timbers will be described.

The foremost timbers differ also very much at the head from those in the after body: For since the ship carries her breadth so far forward at the top-timber line, it therefore occasions the two foremost frames to fall out at the head beyond the breadth, whence they are called *knuckle* timbers. They are thus described: The height of the top-timber line being set off in the body plan, set off on it the top half breadth taken from the half-breadth plan, and at that place draw a perpendicular; then from the sheer plan take the height of the top of the side, and set it off on the perpendicular in the body plan: Take also the breadth of the rail at the top-timber line in the sheer plan, and set it off below the top-timber line at the perpendicular line in the body plan, and the straight part of the knuckle timber to be drawn will be determined. Then from the last mentioned point set off describe a curve through the points set off for the timber down to the upper breadth, and the whole knuckle timber will be formed. It will hence be seen that those timbers forward will fall out beyond the main breadth with a hollow, contrary to the rest of the top side, which falls within the main breadth with a hollow.

The fore and after bodies being now formed, the water lines must next be described in the half-breadth plan, in order to prove the fairness of the bodies. In this draught the water lines are all represented parallel to the

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Application of the foregoing Rules to the Construction of Ships. the keel; their heights may, therefore, be taken from the sheer plan, and transferred to the body plan, drawing horizontal lines, and the water lines will be represented in the body plan. In ships that draw more water abaft than afore, the water lines will not be parallel to the keel; in this case, the heights must be taken at every timber in the sheer plan, and set off on their corresponding timbers in the body plan; and curves being described through the several points, will represent the water lines in the body plan.

Take the distances from the middle line to the points where the water lines intersect the different timbers in the body plan, and set them off on their corresponding timbers in the half-breadth plan. From the points where the water lines in the sheer plan intersects the aft part of the rabbet of the sternpost draw perpendiculars to the middle line of the half-breadth plan, and upon these perpendiculars set off from the middle line the half thickness of the sternpost at its corresponding water line; which may be taken from the body plan, by setting off the size of the post at the head and the keel, and drawing a line for the tapering of it; and where the line so drawn intersects the water lines, that will be the half thickness required: then take an extent in the compasses equal to the thickness of the plank, and fix one point where the half thickness of the post intersects the perpendicular, and with the other describe a circle, from the back of which the water lines may pass through their respective points set off, and end at the fore part of the half breadth plan, proceeding in the same manner as with the after part. A line drawn from the water line to the point set off for the half thickness of the post will represent the aft part of the rabbet of the post; and in like manner the rabbet of the stem may be represented. The water lines being all described, it will be seen if the body is fair; and if the timbers require any alteration, it should be complied with.

The cant timbers of the after body may next be described in the half-breadth plan; in order to which the cant of the fashion-piece must first be represented. Having therefore the round aft of the wing transom represented in the half-breadth plan, and also the shape of a level line at the height of the wing transom; then set off the breadth of the wing transom at the end, which is one foot four inches, and that will be the place where the head of the fashion-piece will come: now to determine the cant of it, the shape of the body must be considered; as it must be canted in such a manner as to preserve as great a straightness as is possible for the shape of the timber, by which means the timber will be much stronger than if it were crooked; the cant must also be considered, in order to let the timber have as little bevelling as possible. Let, therefore, the heel of the timber be set off on the middle line, two feet afore timber 35; and then drawing a line from thence to the point set off on the level line for the wing transom, the cant of the fashion piece will be described, and will be found situated in the best manner possible to answer the before mentioned purposes.

The cant of the fashion-piece being represented, the cant of the other timbers may now be easily determined. Let timber 29 be the foremost cant timber in the after body, and with a pencil draw timber 28; then observe how many frames there are between timber 28

and the fashionpiece, which will be found to be nine, namely, 29, 30, 31, 32, 33, 34, 35, 36, and 37. Now divide the distance between timber 28 and the fashion-piece on the middle line into 10 equal parts: Divide also the corresponding portion of the main half breadth lines into the same number of equal parts; and straight lines joining the corresponding points at the middle line with those in the half-breadth line will represent the cant timbers in the after body.

The line drawn for the cant of the fashion-piece represents the aft side of it, which comes to the end of the transoms; but in order to help the conversion with regard to the lower transoms, there may be two more fashion-pieces abaft the former; therefore the foremost fashion-piece, or that which is already described in the half-breadth plan, may only take the ends of the three upper transoms, which are, the wing, filling, and deck: the middle fashion-piece may take the four next, and the after fashion-piece the lower ones: therefore set off in the half-breadth plan the siding of the middle and after fashion-piece, which may be 13 inches each; then by drawing lines parallel to the foremost fashion-piece, at the aforesaid distance from each other, the middle and after fashion-piece will be represented in the half-breadth plan.

The fashion-piece and transoms yet remain to be represented in the sheer plan; in order to which, let the number of transoms be determined, which, for so large a buttock, may be seven below the deck transom: draw them with a pencil, beginning with the wing, the upper side of which is represented by a level line at its height; set off its siding below that, and draw a level line for the lower edge. The filling transom follows; which is merely for the purpose of filling the vacancy between the under edge of the wing and the upper part of the deck plank: it may therefore be represented by drawing two level lines for the upper and lower edge, leaving about two inches between the upper edge and lower edge of the wing transom, and four inches between the lower edge of the gun-deck plank; then the deck transom must be governed by the gun-deck, letting the under side of the gun-deck plank represent the upper side of it, and setting off its siding below that; the under edge may also be drawn: the transoms below the deck may all be sided equally, which may be 11 inches; they must also have a sufficient distance between to admit the circulation of the air to preserve them, which may be about three inches.

The transoms being now drawn with a pencil, the fashion-piece must next be described in the sheer plan, by which the length of the transoms as they appear in that plan will be determined. As the foremost fashion-piece reaches above the upper transom, it may therefore be first described: in order to which, draw a sufficient number of level lines in the sheer plan; or, as the water lines are level, draw therefore one line between the upper water line and the wing transom, and one above the wing transom at the intended height of the head of the fashion-piece, which may be about five feet; then take the height of these two level lines, and transfer them to the body plan; and take off two or three timbers and run them in the half-breadth plan, in the same manner as the water lines were done; then from the point where the line drawn for the cant of the fashion-piece, in the half-breadth plan, intersects the level

Application of the foregoing Rules to the Construction of Ships.

vel line drawn for the head of the fashion-piece, draw up a perpendicular to the said line in the sheer plan, making a point. Again, from the intersection of the cant line, with the level line for the wing transom in the half breadth plan, draw a perpendicular to the wing transom in the sheer plan. Also draw perpendiculars from the points where the cant line in the half-breadth plan intersects the level line below the wing transom, and also the water lines to the corresponding lines in the sheer plan; then a curve described through these points will be the representation of the foremost fashion-piece in the sheer plan. In the same manner the middle and after fashion-pieces may be described; observing to let the middle one run up no higher than the under part of the deck transom, and the after to the under side of the fourth transom under the deck. The transoms may now be drawn with ink, as their lengths are limited by the fashion-pieces.

Neither the head nor the fore-side of the sternpost are yet described; take, therefore, from the dimensions, the breadth of the post on the keel, and set it off on the upper edge of the keel from the aft side of post. The head of the post must next be determined, which must just be high enough to admit of the helm-post transom and the tiller coming between it and the upper deck beam; the height therefore that is necessary will be one foot nine inches above the wing transom. Now draw a level line at that height, upon which set off the breadth of the sternpost at that place, taken from the dimensions, and a line drawn from thence to the point set off on the keel will be the fore-side of the sternpost; observing, however, not to draw the line through the transoms, as it will only appear between them. The inner post may be drawn, by setting off its thickness forward from the sternpost, and drawing a straight line as before, continuing it no higher than the under side of the wing transom.

The cant-timbers in the after body being described, together with the parts dependent on them, those in the fore body may be next formed; in order to which, the foremost and aftermost cant timbers must be first determined, and also the cant of the foremost ones. The foremost cant-timber will extend so far forward as to be named *E*; the cant on the middle line may be one foot four inches afore square timber *W*, and on the main half breadth line one foot nine inches afore timber *Y*; in which situation the line may be drawn for the cant; the aftermost may be timber *Q*. The cant timbers may now be described in the same manner as those in the after body, namely, by spacing them equally between the cant timber *E* and the square timber *P*, both on the main half breadth and middle lines, and drawing straight lines between the corresponding points, observing to let them run out to the top-timber half-breadth line, where it comes without the main half breadth line.

The hawse pieces must next be laid down in the half breadth plan; the sides of which must look fore and aft with the ship upon account of the round of the bow. Take the siding of the apron, which may be about four inches more than the stem, and set off half of it from the middle line, drawing a line from the main half breadth to the foremost cant timber, which will represent the foremost edge of the knight-head; then from that set off the siding of the knight-head, which may

be one foot four inches, and draw the aft side of it. The hawse pieces may then be drawn, which are four in number, by setting off their sidings, namely, one foot six inches parallel from the knight-head and from each other; and straight lines being drawn from the main half-breadth line to the foremost cant timber will represent them.

The hawse holes should be described in such a manner as to wound the hawse pieces as little as possible; they may therefore be placed so that the joint of the hawse pieces shall be in the centre of the holes, whence they will only cut half the hawse pieces. Take the dimensions of the hawse holes, which is one foot six inches, and set off the foremost one, or that next the middle line, on the joint between the first and second hawse piece; then set the other on the joint between the third and fourth hawse piece; and small lines being drawn across the main half breadth at their respective places will represent the hawse holes in the half-breadth plan.

The hawse holes should next be represented in the sheer plan. In this class of ships they are always placed in the middle between the cheeks; therefore set off their diameter, namely, one foot six inches, between the cheeks, and draw lines parallel to the cheeks for their upper and lower part. Then to determine their situation agreeable to the half-breadth plan, which is the fore and aft way, draw perpendiculars from their intersections with the main half-breadth line to the lines drawn between the cheeks, and their true situations, the fore and aft way, will be obtained; and, by describing them round or circular, according to the points set off, they will be represented as they appear in the sheer plan.

The apron may be drawn in the sheer plan, setting off its bigness from the stem, and letting it come so low that the scarf may be about two feet higher than the foremost end of the fore foot; by which it will give ship to the scarfs of the stem. It may run up to the head of the stem.

The cutting down should next be drawn. Take therefore from the tables of dimensions the different heights there expressed, and set them off from the upper edge of the keel on the corresponding timbers in the sheer plan: then a curve described through the points set off, from the inner post aft to the apron forward, will be the cutting down. Next set off from the cutting down the thickness of the timber strake, which is $8\frac{1}{2}$ inches, and a curve described parallel to the former will represent the timber strake, from which the depth of the hold is always measured.

The kelson is drawn, by taking its depth from the dimensions, and setting it off above the cutting down line; and a curve described parallel to the cutting down will represent the kelson.

The cutting down line being described, the knee of the dead wood abaft timber 27, being the after floor timber, may then be represented. Set off the siding of the floor abaft it, and erect a perpendicular in the sheer plan, which will terminate the foremost end of the dead wood; then the fore and aft arm of the knee may be half the length of the whole dead wood, and the up and down arm may reach to the under part of the lower transom; and the whole knee may be placed in such a manner that the upper piece of the dead wood

Encyclopaedia britannica or a dictionary of arts, sciences and
miscellaneous literature

Bd.: 17,1

Edinburgh (1810)

4 Enc. 7-17,1

urn:nbn:de:bvb:12-bsb10351522-0